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INDIVIDUALIZED BIT SERVICE FOR YOUR SPECIFIC FIELD CONDITIONS

★ With time and equipment at a premium today, it is of vital importance that you get every foot of hole possible from every bit you run. But because no two formations drill exactly alike — regardless of geological similarity — standard bits frequently cannot meet special field conditions, boosting costs unnecessarily high.

NOW, Crum-Brainard *individualized* bit service enables you to efficiently meet *any* field problem with a bit that exactly fits your requirements! Besides the 7 basic types shown here for the general formations listed, Crum-Brainard will change the shape or number of teeth, or redesign angle and pitch of cutters to conform to your specifications.*

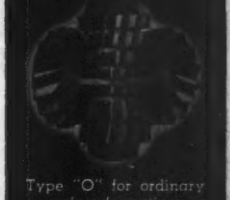
Send us a description of the formations in your field and your suggestions as to rock bit characteristics needed to drill them efficiently. Our engineers will be glad to incorporate these suggestions in perfecting a bit for *your specific needs*, or in recommending one or more standard Crum-Brainard types for your conditions.

*In numerous competitive runs all over the world, Crum-Brainard Bits, properly selected for local conditions, have out-performed all other types!

Type "OSS" for soft, sticky formations

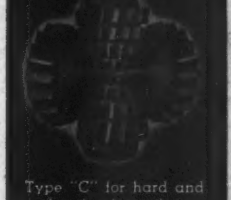
Type "OS" for shale and medium sand rock

Type "OW" for medium hard shale

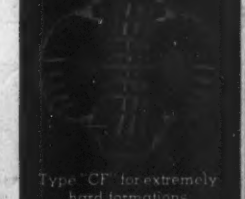


Type "O" for ordinary surface formations

Type "CO" for abrasive limes and shales



Type "C" for hard and abrasive formations



Type "CF" for extremely hard formations

Crum CB Brainard

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BRANCH WAREHOUSES

PETROLEUM SERVICE CO., SANTA MARIA, CALIF. ★ VALLEY WAREHOUSE, BAKERSFIELD, CALIF. ★ B & G SERVICE CO., AVENAL, CALIF.

Vol. 35
No. 13
Whole
No. 1612

One PRESSURE CONTROL

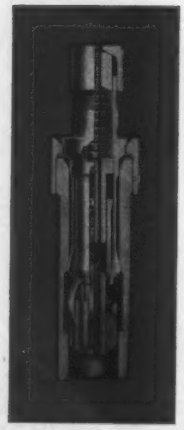
useful for every wire line job!

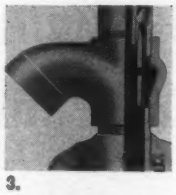
HERE'S the tool that gives you all the advantages of a poor-boy swivel for rotating pipe and circulating to keep the well under control . . . and on top of that gives a pressure-proof wire line pack-off to hold gas and oil inside the flow lines. *It's the Bowen Pressure Control!*

With this one compact unit you can run wire line core barrels and surveying instruments under pressure—*with safety*—swab for production tests, keep the pipe free, maintain circulation and have a dry and *safe* rig floor. You have in one tool all the safety and operating convenience you normally get only by combining several individual tools!

1.

2.





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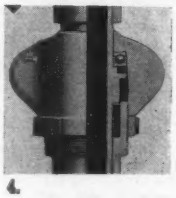


4.

4 RUGGED PARTS INSURE *Complete Control*

1. This *Packing Unit* on the Bowen Pressure Control prevents gas or fluid leakage and wipes the line clean as a whistle. It automatically locks in position when tools are lowered in the hole, and automatically releases when struck by outcoming tools.

2. See that *Automatic Lock?* It snaps into position as the tools are lowered, *and no amount of pressure can blow it out.* Yet when struck by the rope socket it releases the packing unit *instantly.* Eliminates need for flagging the line—speeds your operations.

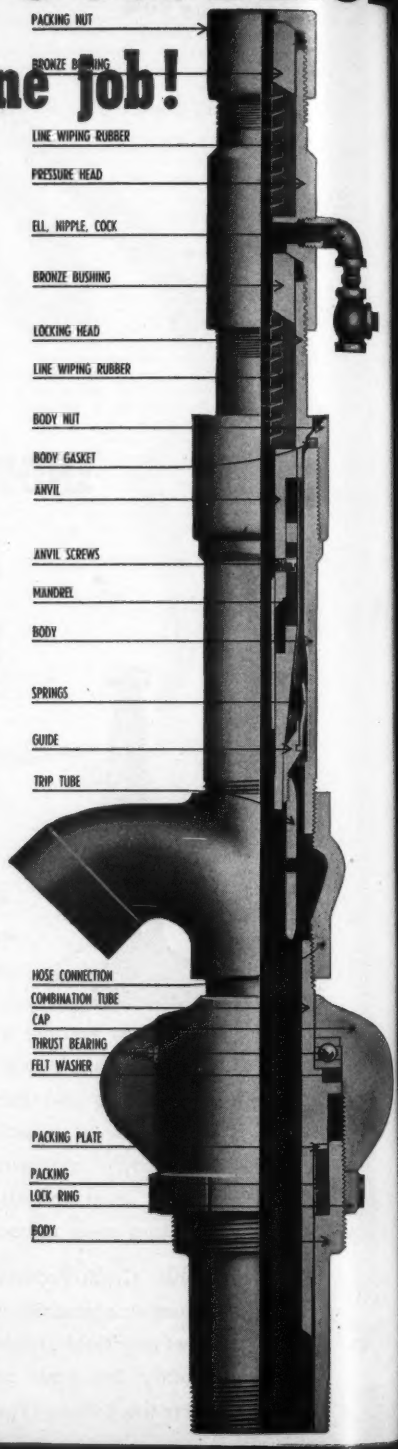
3. With this *Gooseneck Connection,* you can attach the regular rotary hose and keep up circulation to prevent pipe sticking. Takes any pressure you need for control, and doesn't choke back the flow!

4. This lubricated ball-bearing *Swivel* permits full rotation of the drilling string to further prevent freezing the pipe. It rotates with the table while the Gooseneck Connection above remains stationary—and circulation is continued for proper well control.

Use the Bowen Pressure Control in your production work—wherever you want maximum well control during wire line operations. Available from your nearest Bowen Service Store—day or night—in sizes to fit your drilling string. Sold outright for export only.

⬅ FOR PACKING OFF WIRE LINES

. . . when the circulating swivel and high pressure extension described above are not required, the Bowen Line Wiper shown at left is the ideal tool. It is a completely automatic unit that keeps the wire line clean, prevents gas or fluid leakage and maintains a dry and safe rig floor. Pressure-proof . . . fully automatic locking and releasing action . . . simple, sturdy and safe. **Available from Bowen headquarters in your territory—sold outright for export only.**



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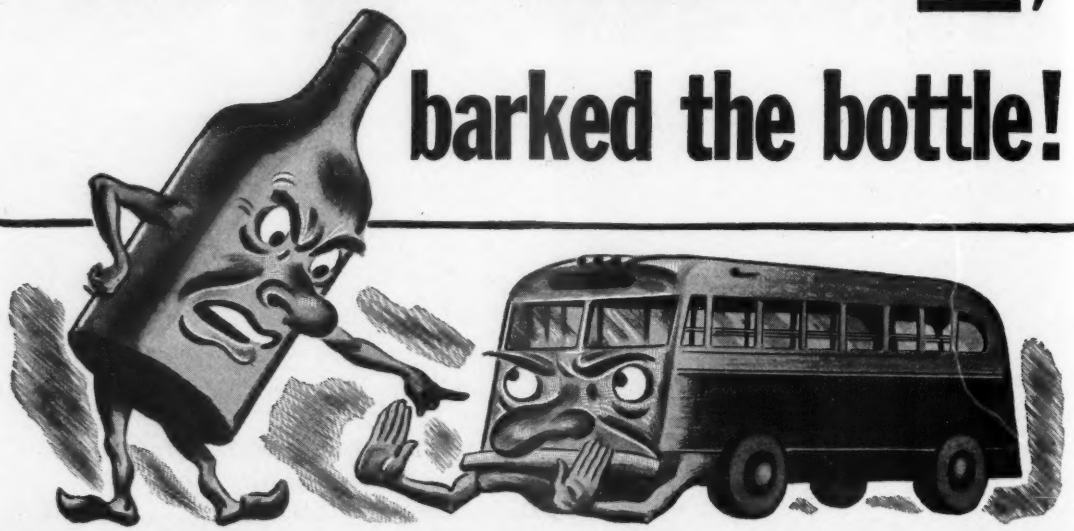
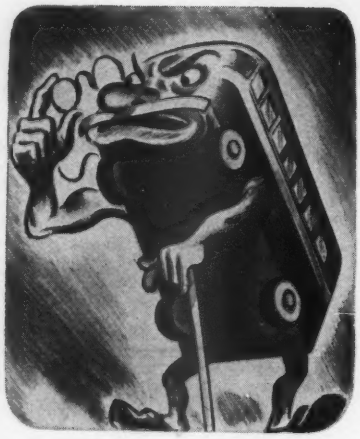
July 10, 1942

Telephone Number TUcker 2571

"Don't talk TOUGH to me," barked the bottle!





"I CLAIM *I've* got the toughest job in the world for Diesels! At the F. E. Reed Glass Co., manufacturers of all types of glass containers, in Rochester, N. Y., we have 5 Ingersoll-Rand Diesels, and boy do they work! 24 hours a day—seven days a week—at peak capacity! And do you know something? Since we discovered a certain oil, in 14 months we haven't had a stuck ring or valve. In 50,000 hours of operation we haven't had anything but perfect lubrication! Top that, my friend."

"OKAY, BOTTLE! Down in West Virginia where *I* hail from, the Pittsburgh-Weirton Bus people travel their buses over mountainous country. Toughest going you ever saw. They've covered more than 500,000 miles of it, too! And since we discovered *our* secret we've been able to more than double the time between oil changes. Rolling 21 hours a day, in low gear almost all the way, our engines are cleaner than ever, bearings in topnotch condition, rings free!"

BOTTLE: "Sounds almost unbelievable, Brother Bus! I don't see how you can do it—unless you use the same oil *we* do ... RPM DELO."

BUS: "I do, Brer Bottle! Indeed, my boss wouldn't think of using anything else *but* RPM DELO. Fact is, I can't see why anybody should use anything else."

Get extra performance with STANDARD DIESEL FUEL

100% distilled! Power-packed Standard Diesel Fuel is "vapor-cleaned" for long injector and fuel pump life. Carefully controlled ignition qualities and other characteristics provide more complete combustion. Use it—get extra performance for your money.

RPM DELO

DIESEL ENGINE LUBRICATING OIL

STANDARD OIL COMPANY OF CALIFORNIA

More Wildcats, More Rehabilitation and More Developement, OPC Urges

An 80 per cent increase in drilling activity in 75 fields producing crude oil of less than 24° API gravity; a well rehabilitation program affecting 578 producers and 861 shut-in holes in these fields, and top priority assistance for exploratory drilling, are the urgent recommendations of the Office of Petroleum Coordinator for War in District Five.

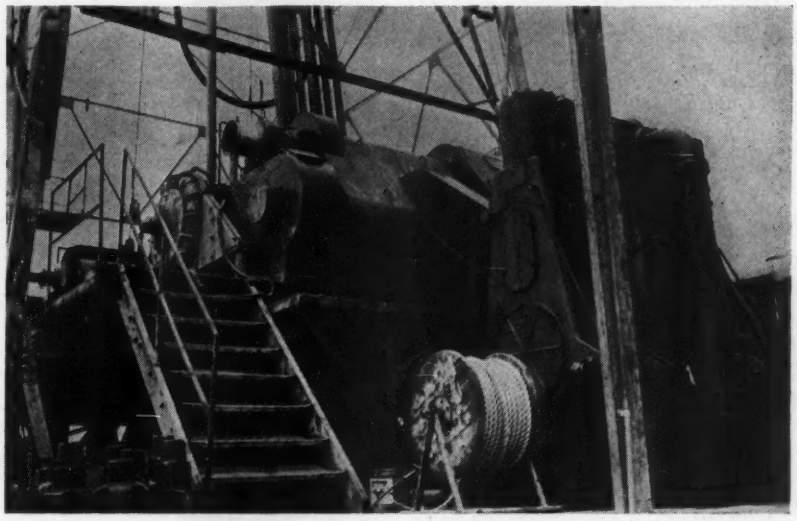
These recommendations came as the result of a comprehensive survey of current heavy crude oil supply and increasing military usage in California. More than 100 petroleum engineers and technologists devoted all of their time over a period of several months to the compilation of the data upon which the OPC's heavy crude oil survey report is based.

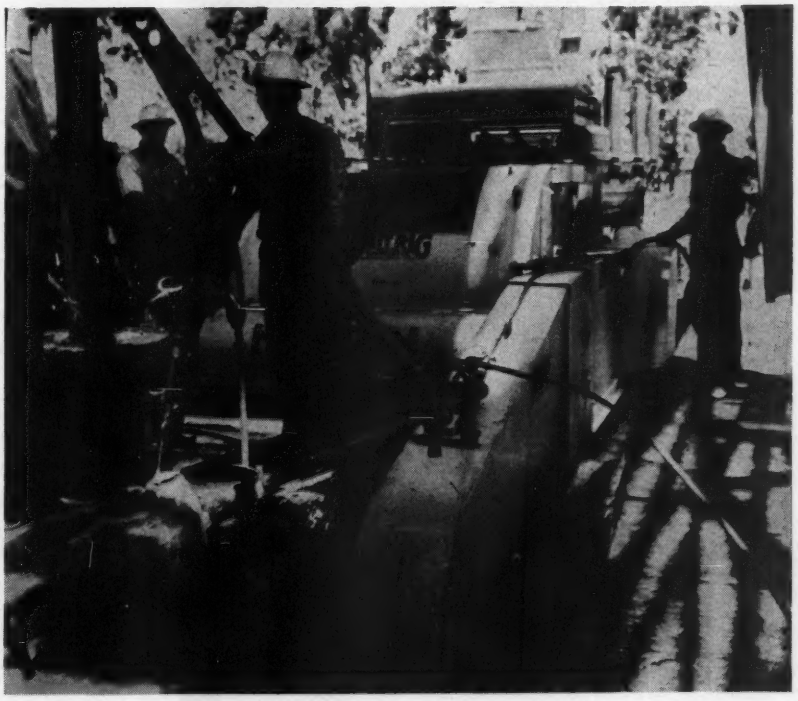
The recommended increased drilling activity in proven fields, and the requested well rehabilitation work, survive a sharp scrutiny of steel requirements. Additional drilling in proven fields would require about 168,000 tons of steel, while rehabilitation projects would consume 8248 tons of steel.

To quote from the report (signed by Commander W. H. Osgood, District Five Coordinator):

"A total of about 2685 wells which will produce heavy oil remain to be drilled in California on proved oil land. The number estimated is considered to be that from which sufficient oil can be recovered to return the required investment. There are other wells that could be economically drilled if the price of oil were materially increased but the majority of these would not be worthwhile when the utilization of steel is considered. Until total reserves are greatly depleted, an expenditure of 40 tons of steel in a shallow well that would produce 10,000 barrels in five years, one ton of steel for 250 barrels of oil, would not be justifiable even if the price of oil were sufficiently high to return the cost in five years. **Increased drilling that would result from high-priced oil would be best diverted to exploratory work, rather than to the development of areas of small productivity.**

" . . . Exclusive of the Coastal Region, the most prolific large areas suitable for intensive development





Right, above, Continental has to move this massive rig up and down the perilous inclines of its Ventura Grubb lease, piece by piece, to cope with extremely difficult formations. Note, incidently, the rope saving spool holder in foreground. Below, John Marion, in the old Huntington Beach field, finishes 4200-ft. holes in a week with a light, hydraulically-couple "Unitrig". Even wooden derricks are skidded in Huntington Beach.

are the Wilmington field for the Los Angeles area refineries, and Mt. Poso-Round Mountain fields for San Francisco area demands. By selective drilling in such areas, it will be possible to obtain a production of 100,000 barrels daily from less than 1000 wells . . ."

"Plans for the development of the Coastal Region may best be deferred until the necessary refining and pipe line facilities are worked out in detail. At the present time and under present conditions there is sufficient oil available to provide for that particular demand . . .

"It is suggested in all shallow to medium depth heavy oil fields that:

1. A pool in the primary development stage be drilled one well to 10 pool-acres, but that the well spacing pattern allowed provide for secondary development of one well to five acres.

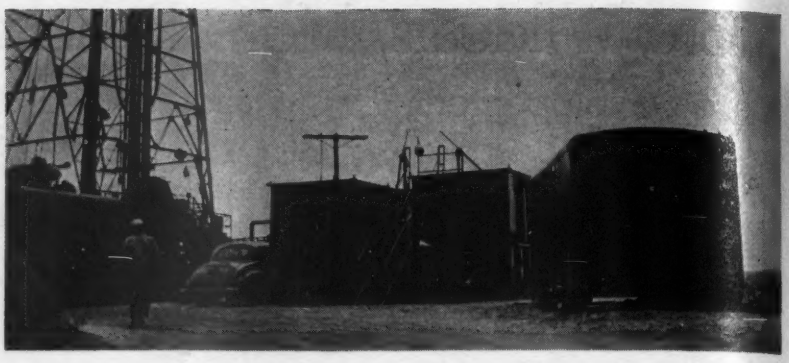
2. Old pools with undrilled areas be developed in a like manner.

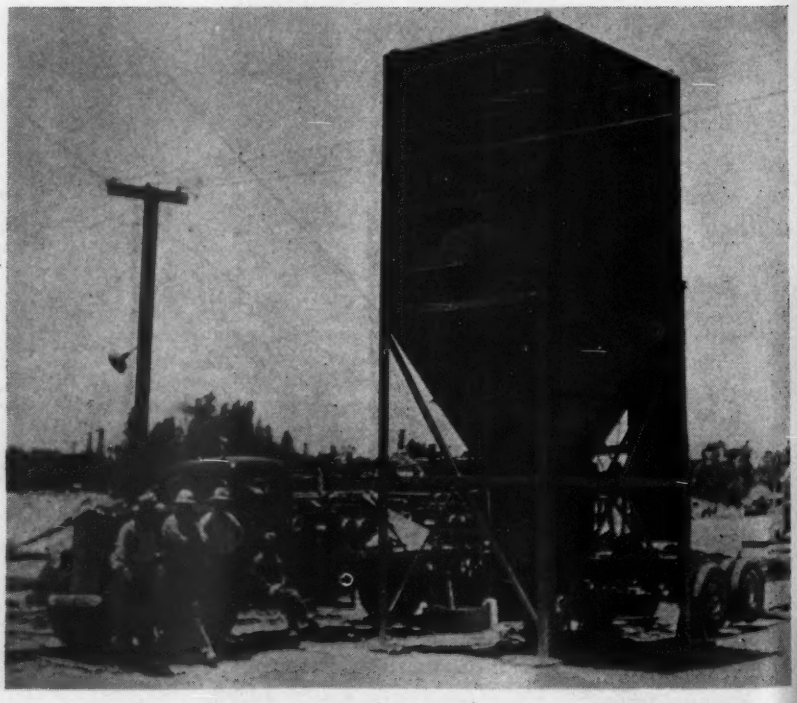
3. Undrilled single locations in old pools be drilled on a pattern corresponding to uniform spacing already prevailing.

4. In drilled areas of old pools where closer spacing is justified by the amount of remaining reserves and the steel factor, the spacing for additional drilling be variable to allow for structural, sand and drainage conditions."

Laying emphasis upon the need for intensive wildcatting operations, the report states:

"California provides the only supply of petroleum west of the Rocky Mountains. The necessity for increasing this supply in a location so strategic to our war effort is paramount. Strong encouragement for material increase in all exploration





At right, top, Continental goes after the tough San Miguelito mud problems with scientific and engineering precision. Structure at right is portable mud laboratory which is skidded on truck for transportation. Note the portable "slush pits". Center, interior of the portable mud lab. All necessary testing equipment is included without evidence of crowding. Below, a mobile bulk cement dispenser in operating position after being raised from its bed on a truck by hydraulic jacks.

DURING THE EMERGENCY

Baroid expects to render

SERVICE AS USUAL

Since the inception of the Baroid Sales Division, we have maintained field service engineers in, or adjacent to, all active oil fields of the United States. This service, in collaboration with oil company mud engineers, has resulted in large savings for the oil industry by reducing or eliminating drilling difficulties, by the saving of casing and in many cases, by the actual saving of wells.

It is the desire of the Baroid Sales Division to maintain this service throughout the emergency, insofar as possible, with whatever means are available.

BAROID SALES DIVISION
NATIONAL LEAD COMPANY
BAROID SALES OFFICES: HOUSTON • LOS ANGELES • TULSA

1943?

PATENT LICENSES, unrestricted as to sources of supply of materials but on royalty bases, will be granted to responsible oil companies and operators to practice the inventions of any and/or all of United States Patents Nos. 1,575,944; 1,575,945; 1,807,082; 1,991,637 and further improvements thereof. Applications for such licenses should be made to Los Angeles office.

BAROID PRODUCTS: Baroid and Colox, Aquagel, Fibrotex, Baroco, Stabilite, Aquagel-Cement, Smentox, Zeogel, Impermex, Micatex, Testing Equipment, Baroid Well Logging Service.

activities is essential. The serious decline in the discovery rate of new fields and pools in the State of California, supports the belief that many more wildcat wells must be drilled if any of the remaining undiscovered oil fields are to be found in time to produce during the present emergency. A rate of discovery greater than 300 million barrels per year is necessary to meet the apparent war demands."

Wilmington field is singled out in the report as a prolific source of heavy crude oil for refineries of the Los Angeles area. It may be interesting to examine this highly desired raw material for war. The United States Bureau of Mines notes that the Terminal sand at Wilmington (3190-3618 feet) produces a brownish black crude oil of 17.1° API gravity containing 2.47 percent of sulphur, and having S.U. vis. of 1,570 sec. at 100° F., and S.U. vis. of 950 sec. at 130° F.

Approximate summary of the Bureau of Mines Hempel distillation of this Wilmington heavy crude oil shows the following yield and characteristics:

Total gasoline and naphtha, 5.4 percent, 50.1° API gravity; gas oil, 18.5 percent, 32.3° API gravity; non-viscous lubricating distillate, 8.3 percent, 26.8-23.3° API gravity, and 50-100 viscosity; medium lubricating distillate, 5.1 percent, 23.3-21.3° API gravity, and 100-200 viscosity; viscous lubricating distillate, 7.9 percent, 21.3-18.4° API gravity, and above 200 viscosity; residuum, 52.8 percent, with specific gravity of 1.013. Distillation loss was 2 percent. Carbon residue of residuum was 15.5 percent, while that of the crude was 8.2 percent.

Now to examine a 25.6° API brownish black crude oil from the Terminal sand in the Wilmington field. This crude has a S.U. vis. of 110 seconds at 100° F., and a S.U.

Shell geologists scored again last month when this wildcat, 55 miles northwest of Bakersfield, came in flowing more than 900 barrels daily. The new well is producing low gravity crude, much needed for war use.

South of Bardsdale, R. N. Cox, R. Powers, Raleigh McKeon, John McKeon, and Merle Bowles look over Ventura Southern Oil Co.'s McCampbell No. G-1.

vis. of 80 sec. at 130° F. The Hempel distillation shows as follows: Total gasoline and naphtha, 20.4 percent, of 56.2° API gravity; gas oil, 20.7 percent, 33.6° API gravity; non-viscous lubricating distillate, 7.8 percent, 27.9-23.7° API gravity, 50-100 vis.; medium lubricating distillate, 4.5 percent, 23.7-21.5° API gravity, 100-200 vis.; viscous lubricating distillate, 8.1 percent, 21.5-18.6° API gravity, above 200 vis.; residuum, 36.2 percent, of 1.007 specific gravity. Distillation loss was 2.3 percent. Carbon residue of the residuum, 9 percent; of the crude, 3.3 percent. Percent of sulphur for this 25.6° API gravity crude was 1.24.

These Hempels are presented here not only to describe the hero in the heavy crude oil survey report, but also to form a backdrop for discussion which is to follow.

While the Office of Petroleum Coordinator for War in District Five has taken a definite (and now public) stand in urging greater production of heavy crude oil as a means of meeting the distillate and residual fuels demand problem, so-called "authoritative" reports continue to herald a revolutionary solution involving the drastic revision of refinery operating technique. It is reported that a number of prominent refinery executives have "informed Washington" that the answer to the fuel oil problem is not the exploitation of present and possible heavy crude oil reserves, but merely a revision of refinery operation procedure so that less light ends and more heavy ends would be produced. If these refinery executives have been correctly quoted, it is certain that WPB is not going to permit the expenditure of 176,248 tons of steel for the rehabilitation and proved field drilling program urged in the OPC report.

Unless the "refinery solution" to the fuel oil problem is based on unrevealed (publicly) processes for converting light hydrocarbons of little or no war value into the high flashpoint, high Btu hydrocarbon mixtures useful in the range of Diesel tanks to bunkers, the unimagainative observer is led to suppose that the "refinery solution" calls for running all refinery units available at full capacity, and, naturally, the lifting of curtailment wherever feasible to supply the greatly expanded throughput.

Taking the Bureau of Mines figures for January 1, 1941, we find that daily California crude capacity in service was 764,610 barrels, and idle capacity was 187,650. Cracked gasoline capacity was 119,885 barrels daily, with 24,600 barrels of this capacity idle. Comparing these capacity figures with the actual throughput average recorded in the previous year, the Bureau of Mines observer points out that the refineries could handle 70 percent more crude oil, and 80 percent more cracking plant charging stock, than has been their practice.

It is a somewhat disquieting fact that most fields which would thus be freed of production restrictions contain from 30 to more than 90 percent of gasoline and naphtha cuts. However, many uses for the greatly increased volume of light ends have been suggested:

Fuel consumption is a large item in the refinery picture. The Bureau of Mines report for 1939-1940 on this subject shows that California refineries consumed 5,873,000 barrels of fuel oil, 833,000 barrels of acid sludge, 18,975,000,000 cubic feet of natural gas, 26,625,000,000 cubic feet of refinery gas, and 356,120,000 kilowatt-hours of purchased electricity, in running 201,023,000 barrels of crude oil to stills.

By reforming the gasoline-naphtha cut at "gas reversion" temperatures, the refiners could produce much wanted diolefins and cyclic mixtures, as well as gas for their burners, thus freeing a large supply of fuel oil and lessening the load on other power sources.

Engineers believe that the output in many old fields, and in certain new fields could be increased if the face of the producing sands were thoroughly washed with a solvent such as gasoline-naphtha. It is like-

Valuable oil blazes and in a few second plain water brings the desired results shown at right. The secret is in applying the water in the form of a fog through a special nozzle.

John Marion, boss of H. B. Oil Co., congratulates Kern Drilling Co.'s Driller H. T. Green, on a fast, hitchless drive for heavy crude.

wise pointed out that "flushing" with gasoline-naphtha in connection with oil mining operations in very shallow fields would enhance crude oil production. Similarly, the pipe line transportation of heavy crudes in various highly prolific fields would be faciltated by a judicious admixture of gasoline-naphtha. Now that citizens are asked to save fats, the use of gasoline-naphtha in grease reclamation is worth thinking about . . . It's surprising how many uses for the gasoline-naphtha cut will occur.

Leaving now the rumored "refinery solution" to the fuel oil problem, we return to the District Five OPC Heavy Crude Oil Survey:

" . . . Demand for heavy fuel has exceeded supply during most of the past two and one-half years. This deficiency is reflected in a steady decline in inventories over that period, reducing the total above-ground reserves of 'residual fuel' to 48,500,000 barrels on March 31, 1942. (At the close of May the figure had receded to 45,899,000 barrels).

"If the current deficiency of supply continues, these inventories will be exhausted in about two and one-half years, assuming that all of the oil in storage is suitable for use as fuel. Should some of it be unfit for use, which is now a known fact, or should the difference between supply and demand widen, the day of exhaustion of above-ground reserves will come much sooner. Considered from the standpoint of current demand, the present inventories would last 153 days if new supply were completely shut off and all of the stored oil were usable."

The District Five OPC's solution to the heavy fuels problem notes that all oil discovered prior to 1916 was 27.5° gravity, or lower, and that no sizeable discovery of heavy oil has been made since 1936. "During much of the history of the oil industry," the report states, "the prices of crude oil and refined products have been a major influence and incentive for exploration. Prices of crude oil and refined oil and gas products control the return of invested capital and provide additional funds essential to the conduct of increasingly hazardous and costly programs of finding oil. During the last twenty years, the prices of crude oil and gasoline have declined almost 50 percent, while the cost of discovering a barrel of oil has pyramided. The resulting narrowed margin of return, along with the past and present trend in taxation, does not encourage hazardous exploration for new oil fields. A greater return from higher prices might not materially alter the discovery rate, but it would unquestionably permit an increase in those costly exploration activities necessary to the discovery of oil."

17 Additional Pools In Unrestricted Class

Seventeen pools have been added to the list exempted from restriction on oil production in the California allocation schedule for July submitted by the Production Committee for District No. 5 to the Office of Petroleum Coordinator for approval, making a total of 143 such pools.

These exemptions are based upon a new segregation of pools into those in which capacity production would not reduce ultimate recovery of oil from the pool, as against those in which wide-open operation would lower ultimate recovery, this determination having been made from a study and evaluation of production characteristics of the pools by the Engineering Subcommittee of the Production Committee.

Pools now are divided into six classes: Ia, b, and c, and IIa, b, and c. Pools in the "I" class are those in which capacity production would result in reduction of ultimate recovery, and those in the "II" class are those in which no damage to the pool would result from unrestricted output. The sub-divisions in each class indicate gradation of effect of unrestricted production upon ultimate recovery, as well as progressive stages of depletion, relative average well size, and utilization of present equipment. For example, it would be more damaging to ultimate recovery to produce a Ia pool to capacity than it would to produce a Ic pool to capacity, and exemption of IIc and b pools utilizes present equipment where rate of availability is low while reserving for future emergencies the flowing production of the undepleted pools.

"A STITCH IN TIME"
Spirit of the Times
MAKE THE MOST OF WHAT WE HAVE
HOWCO
WORKOVER AND REPAIRS
More and more operators, restricted in the drilling of new wells, are finding in wells already drilled a source of added production . . . In the spirit of the times, they are making the most of what they have—and using newly developed HOWCO methods and equipment to determine the problem and provide its solution . . . It's a subject that should be investigated—why not get in touch with us?
HALLIBURTON OIL WELL CEMENTING COMPANY
DUNCAN, OKLAHOMA

Basis for these classifications is the percentage of depletion of the pool. As depletion of the pool progresses, it grades from the "I" classification and its sub classifications into the "II" classifications and its sub classifications. Thus a Ia pool is a relatively undepleted flowing pool, and a IIc pool is a marginal area, usually in the extreme stages of depletion with a producing capacity not materially in excess of the economic minimum necessary to maintain continuity of production, the other gradations falling between these two extremes.

With pools thus classified, the additional volume of producing capacity exempted from restriction in July as compared with June is estimated at 65,620 barrels per day, resulting in a net increase of 11,434 barrels per day in allotment. The total California production quota for July, as certified by the Petroleum Coordinator, is 739,500 barrels per day, including crude oil, natural gasoline, liquefied petroleum gases, and condensate. Out of this total, net crude requirements are estimated by the Production Committee to be 699,400 barrels, of which 3320 barrels per day is reserved for wells to be completed during July, leaving 698,080 barrels allocated to producing well as of the first of the month.

Midway-Sunset Area Gets Much Activity

Loosely defining the area under discussion as that section stretching southeasterly from the McKittrick environs to the southerly tip of the Sunset area and including the Buena Vista-Elk Hills development, there are 34 projects either working or immediately scheduled. Ranging from wildcats to redrills in proved areas, they each have the same objective, that of obtaining the much needed heavy oil in the cheapest and quickest possible manner and represent the patriotic efforts of many operators. With such spirit being demonstrated throughout the state there can be no doubt that all demands placed upon the California Petroleum Industry will be met without stint.

Standard Oil Starts Kern Front Deep Try

Standard Oil Co.'s scheduled basement try, No. 42-9, on sec. 9,28s-27e in the Kern Front-Premier area, is at last under way and drilling at 1490 ft. after cementing 13⅜ in. surface casing at 502 ft. Standard has many projects in varying stages in the Kern Front-Premier area as well as scheduled wells in the Poso Creek section of the district all of which are designed to drill up the proved acreage capable of producing the heavy gravity oil so much in current demand to meet fuel oil shortages.

"Dave" Browne Enters Army

Davis E. Browne, who began a barnstorming career in aviation while attending high school in Harrisburg, Ill., back in 1926, left his post as secretary-treasurer of California Oil World last week to enter Army service as a private with decided leaning toward Air Force duty.

While progressing from the old Standard Bi-plane (OX-5) through Cessna, Robertson Monocoupe, Travelair, Waco, and various amphibians, "Dave" Browne completed his high school courses and went on to Northwestern University, at Evanston, Ill., where he studied Business Administration. His active interest in aviation continued through the two years after Northwestern, when his duties as travelling auditor for a company with 56 branches, scattered from Spokane to Buffalo, and from Duluth to Tulsa, kept him on the go.

In 1936 Dave came to Los Angeles and became accountant for California Oil World. In 1937 he was made secretary-treasurer of the corporation. In 1939 he was one of the charter members of the Industrial Advertising Association of Southern California, a chapter of the

Dave Browne

National Industrial Advertising Association. In 1940 he was made secretary-treasurer of the Association, a post he held until just prior to his induction in the Army.

His interest in California Oil World extended considerably beyond the business of secretary-treasurer. His hobby, ranking along with paddle tennis and ice skating, was touring the oil fields and refining areas (armed in later days with bundles of passes, identification cards, etc.) where he got information about the industry at first hand. There are few men on the derrick floors today in the Basin, Coast or Valley who have not come to know him.

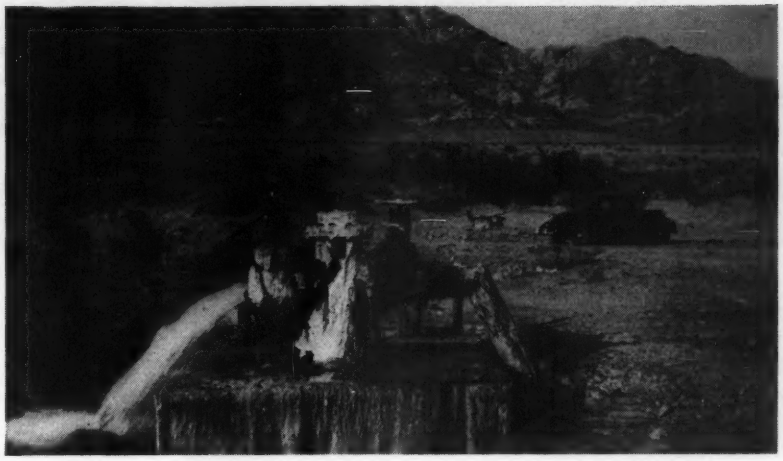
Madera County Test Proves Unsuccessful

Possibilities of developing oil production in the Berenda Area of Madera County were given another set back with the abandonment of the Pacific Western & Geo. F. Getty wildcat Clifford No. 1 in sec. 12,9s-17e. After 8⅝ in. casing was set at 389 ft., granite was encountered at the shallow depth of 540 ft. After drilling ahead to 558 ft., the well was plugged at 370 ft. and abandoned.

Imperial Carbon Dioxide Gas Field

Jas. C. Bransford
Petroleum Geologist

On the southeast shore of the Salton Sea near Niland, Imperial County, natural Carbon Dioxide (CO_2) gas is being converted into dry ice in two well equipped plants, the capacity of which is nearly sixty tons daily. This unique industry, started here in 1933 on an experimental basis, is now expanding due to improved markets created in part by its many new uses in war industries.



Artesian hot (186°) water well with carbon dioxide showing in NE¼ Section 2-9-12.

The strategic advantage of this locality over its artificial CO_2 competitors in the eastern U. S. industrial area, where the product is secured from coke ovens, lime kilns and metallurgical plants, is demonstrated by its obvious superiority of transportation facilities and market outlets in the famous Coachella-Imperial Valley fruit and vegetable district, and its proximity to the large Southern California war industries.

In manufacturing dry ice the gas is first purified and then compressed in three stages to 800 to 1000 lbs. per square inch until it becomes a liquid. Releasing the liquid from that pressure causes it to chill to CO_2 snow, which is then compressed into the usual 10″ cubes of dry ice weighing about 50 pounds. The market price of dry ice is now near $80.00 per ton.

There are at present about fifty different commercial uses to which Carbon Dioxide (gas, liquid and solid) has been adapted. Among these, refrigeration, especially on the freight trains that carry perishable truck garden and orchard products and in ice cream transportation, is one of the main uses of dry ice. One pound of solid CO_2 (dry ice) has the same refrigerating effect at 32° F. as two pounds of ice, and instead of melting to a liquid, as water ice, it sublimes, i.e. it passes directly from a solid to a gaseous state leaving no wet spaces as does water ice.

In the war industries a mixture of dry ice and alcohol is used to contract steel and other metals to make extra tight "shrink fits" in aircraft engines, tanks and anti-aircraft guns, also to shrink cylinder liners in Diesel engines and in valve seats. Again, CO_2 is used in fire fighting equipment, as it reduces the oxygen content of the air to a point where it cannot support combustion.

In the Imperial field there are over forty gas wells, located for the most part in Sections 1, 2, 11, 12, 13 and 14, Township 11 South, Range 13 East, S.B.B.&M. The majority of the wells cement 8⅝″ pipe near 450′ and land 6⅝″ perforated liner on bottom close to 650′.

The resulting production volume is not high, the production of wells varying from 50,000 to 200,000 cubic feet daily, flowing through a ⅛″ to ¼″ bean under pressure of 175 lbs. for several of the wells. However, the resulting gas is rich in Carbon Dioxide (99% pure) and that is practically free from the detrimental H_2S gas. An exception occurred in the southwest edge of the field where a well was abandoned due to excessive H_2S gas.

From a late issue of the Journal of Geology, a study made by J. L.

Imperial Carbon Dioxide Gas Field, view looking north along west line Sec. 1-11-13, Natural Carbonic Products, Inc. wells.

National Dry Ice Corp. plant in Niland, Calif.

Pacific-Imperial Dri-Ice, Inc. plant.

Soske indicates that the "general opinion among the operators of the district is that the CO_2 gas has resulted from the action of superheated steam and other gases on sedimentary carbonate rocks. They note that 'lime' rocks are present near the producing horizons. On the other hand, the emanations of CO_2 from volcanoes is well known. The Salton volcanoes themselves give off CO_2 and other gases, and it appears more probable that the producing horizons are sedimentary structural traps into which the juvenile magmatic carbon dioxide has migrated."

From a geological standpoint it is interesting to study the field notes and surveys of the U. S. General Land Office made in 1856. These surveys reveal the presence of mud and steam volcanoes or geysers and springs situated along the southeast shore of the Salton Sea for a distance of nearly fifteen miles in length and three miles wide, extending northwesterly along the San Andreas Fault system from the present CO_2 gas field in T. 11 S., R. 13 E. to T. 9 S., R. 12 E. This situation is indicative of decadent volcanic activity and is often associated with CO_2 gas.

The results of a geological survey made in 1938 on the Imperial (Niland) CO_2 gas field were in part published in Technical Paper No. 841 of the American Institute of Mining and Met. Engineers. In this report three factors are mentioned, one or more of which is necessary for the accumulation or concentration of natural CO_2 gas, as follows:

1. Proximity to volcanism, extinct, or decadent. Volcanic activity, where it has long been known that the gas evolved is either free or dissolved in the waters of fumaroles, geysers or mud pots.
2. Suitable traps, such as anticlines or domes, which are essential to its collection, in geologic time.
3. Springs or other conduits which provide a means of escape of free or dissolved gas.

Among the companies having large holdings in this gas field, and in surrounding area thought to be favorably situated geologically for Carbon Dioxide exploration, are: the National Carbonic Products, Inc. (George Pepperdine Foundation interest) now drilling its Well No. 43, National Dry-Ice Corp. with its dry ice plant at Niland served with four-mile 4" gravity pipe line from its gas properties to the west, Sunrise Land Co. with extensive holdings to the northwest, Pacific-Imperial Dri-Ice, Inc. with a dry ice plant on its lease in the field, and Max Cawthon.

Nomads "Wing-Ding" At Cheviot Hills July 24

Golf, games, dinner and a glamorous floor show will feature the Third Annual "Wing-Ding" of the Los Angeles Chapter of Nomads to be held at the Cheviot Hills Country Club (formerly the California Country Club) July 24. The day will offer complete relaxation from the job that is taking all our efforts at this time and will help pep up members and guests to greater efforts. There is a large number of oil men from foreign fields now in California and all will be invited to this affair. Nomads will, as customary, bring all the other guests they want to enjoy the affair.

The Golf Tournament will start in the morning and continue throughout the day. Foursomes will tee off at any time they desire but due to the great number of contestants expected each foursome will have to make a reservation for its tee off time so that a definite schedule can be followed. Prizes will, as usual, be awarded to winners in different categories.

Refreshments and entertainment will be available throughout the day until six o'clock when everyone will be given an equal amount of imitation money with which to play games of skill. These games will be closed at eight o'clock and prizes will be awarded to those who, through their skill during this period, have collected the greatest amount of paper.

Dinner will start at eight o'clock and upon its completion the golf prizes, game prizes and door prizes will be awarded.

The climax of the day will be a floor show. All entertainers will be girls and even the conduct of the show will be under the guidance of a mistress of ceremonies. Every girl will be a talented artiste. Cleverness with beauty will be the keynote of the show but comedy will prevail throughout the entire performance.

How to Speed Up War Effort Through

Better Construction Planning

Max B. Miller, chief of the construction section, OPC, Division of Refining, has prepared some additional suggestions on plant design. The original suggestions were contained in bulletin Petroleum Coordinator 42-102.

The War Production Board, says Mr. Miller, is allocating sufficient steel plate each month to permit the completion of those petroleum refinery projects which are scheduled prior to July 1, 1943. Considerable difficulty is being experienced, however, because of the improper distribution of orders amongst the mills which are capable of supplying the material. In some instances, the delivery of the plate falls behind even though the orders are placed because the mill has more work than it can do. In other instances, the orders could be readily handled without confusion. In some cases, plate deliveries are delayed because the purchaser requires an unusual width, whereas the cutting and welding of plates of lesser width might very easily fulfill the requirements.

How to Help

Each fabricator, each contractor, and each principal engaged in the erection of these plants could do much towards the elimination of this difficulty if they would first contact the various mills, familiarize themselves with the current situation, place their orders with the mills that can best handle them and then file their PD-298 forms accordingly, Mr. Miller continues.

Some few weeks ago, Mr. Miller points out, the various oil companies for whom war plants are being built were requested to list with his office any spare compressors which might be made available in their refineries, in their natural gasoline plants, or in their producing fields in order that such spare compressors might be utilized in connection with war plant construction.

Oil Industry Responds

To say that the results of this inquiry were satisfactory would be putting it mildly; they were electrifying. Compressors totaling 92,000 horse power were located. Needless to say, a place is being found for many of them.

The General Petroleum Corp. at Torrance, California; the Magnolia Petroleum Co. at Beaumont, Texas; the Phillips Petroleum Co. at Borger, Texas; and the Shell Oil Co. at Wilmington, California, have each reported that they were able to take care of practically all of their requirements by utilizing spare compressors located within their own organization. The Shell Oil Co. took care of part of their compressor load by adopting absorption refrigeration. One hears a great deal these days about the manner in which centralized control is destroying rugged individualism. It is a subject, Mr. Miller says, upon which his office is unfitted to comment. However, Mr. Miller continues, when it comes to building war plants within petroleum refineries, it is quite noticeable that the industry as a whole still recognizes the fact that the good Lord seems to continue to help those who help themselves.

Valve Bottleneck

Recently, said Mr. Miller, a circular was sent to those engaged in the erection of war plants in which certain suggestions were made with regard to steps which might be taken in order to avoid a shortage in valves. The following day a reply by the head of one of the large valve manufacturers advised that he did not have sufficient orders to keep certain of his shops busy. However, a further review of our material lists clearly indicated that valves will be a bottleneck and a serious one at that. The difficulty at the moment comes from the fact that valves are amongst the last bits of equipment to be ordered for a given project. Generally the valves are listed only after the engineering work has been completed. This practice has proved to have been sound in the past. However, today many plants of identical design are being erected at several points and there would seem to be no reason why valves should not be ordered in advance. It is suggested, therefore, that valve orders should be placed as soon as possible, Mr. Miller said.

Because the industry has been securing an even flow of steel plate, it would appear that the impression has gotten about to the effect that the steel battle has been won. Such is not the case. Steel is still a problem. It is not merely a matter of rolling, shaping, and fabricating steel; it comes right down to ingot production. Curtailment in the use of steel is the best way of solving the problem.

Heavy Steel Demand

A survey of our material lists covering all war plants to be erected within refineries which are projected for completion prior to July 1, 1943, indicates a total requirement for steel which would appear to be excessive. The total tonnage requested for all projects may be listed as follows:

	Tons
Steel plate, sheared, universal and strip	352,855
Structural steel shapes	202,223
Sheet steel, black and galvanized, flat and corrugated	14,249

Much has been done by the petroleum industry in curtailing the use of steel plate. This has been particularly true in connection with those projects which are farthest along. Continued improvement, however, is expected. Much of the steel plate required is used for processing tanks and for storage. Shipment of tank steel should be scheduled so that it will not be delivered at the beginning of the job. Storage tanks are not needed until the job is

complete. A review of existing tanks should be made. Wherever possible, old tanks should be used even if it is necessary to rebuild them. Second-hand tanks purchased from others should find a place in this program.

Where to Cut

Modern refinery construction calls for the installation of steel stairways and steel platforms which completely surround the operating equipment. Looking at some of these installations, one feels like the fellow who could not see the forest for trees. The operating equipment cannot be seen for steel, Mr. Miller said.

This practice, however, cannot be criticized in normal times. It makes for convenience in operation. It contributes to safety. But these are not normal times. Every pound of steel which can be saved by the petroleum industry will go into the making of shells or tanks or ships. When one compares the quantity of structural steel listed above with the steel plate which has been requested, it is not difficult to say that the structural steel requirements are excessive. The matter should receive further study. Ladders can be substituted for stairways. Steel platforms are not in all cases necessary.

The quantity of sheet listed above is not very much. However, any sheet steel is more than is necessary. Sheet steel can be used only for roofing, for side walls, or for the weatherproofing of insulation. Transite or the equivalent can be had and should be used in the erection of buildings. There are any number of plasticized materials which are suitable for the weatherproofing of insulation.

Reese Taylor

The petroleum industry should be particularly interested in the fact that Reese H. Taylor, formerly president of the Union Oil Co. of California, has recently been appointed Chief of the Iron and Steel Branch of the War Production Board. In this connection, a letter recently issued by Mr. Taylor on the subject of steel tubing should be of unusual interest. It is reproduced as follows:

"TO ALL USERS OF STEEL TUBING:

"Because of the critical shortage of COLD DRAWN SEAMLESS STEEL TUBING, it is essential that its use be confined to only those applications where no substitute product will serve the purpose.

"Due to the complex nature of the tubing, it is felt that many users are not familiar with the various types of steel tubing which are available, and which can be supplied for many uses more readily than 'COLD DRAWN SEAMLESS.' Wherever possible, Hot Rolled Seamless, Electrically Welded, Gas Welded, Lap Welded, Butt Welded, or Lock Joint Tubing must be substituted. Design or production engineers, purchasing agents, and all people concerned with the securing of material must give this problem very serious consideration.

"In many instances, 'COLD DRAWN SEAMLESS' has been used or specified without giving due consideration to other types of tubular material which would be perfectly adequate and satisfactory for the intended purpose.

"Unless, by voluntary action on the part of the users of tubing, the capacity of the Cold Drawn Seamless Tubing industry is conserved for only those essential applications, it will be necessary for the War Production Board to take drastic regulatory action.

"Please cooperate with us by thoroughly analyzing your tubing requirements and by voluntarily relating them to the substitutes available for 'COLD DRAWN SEAMLESS'."

"Yours very truly,
"Reese H. Taylor, Chief
"Iron and Steel Branch."

Specifications

In the first issue of Suggestions for Wartime Plant Design Mr. Miller suggested that specifications for alloy tubes should be reduced from sixteen to six. Several of the tube manufacturers have indicated that this simplification would assist their production materially. Several of the petroleum refiners have indicated that the specifications suggested should cover every contingency. Listed below are the specifications which were recommended then and are being recommended now:

1. Low carbon steel
2. Low carbon steel with ½% molybdenum
3. 2% to 3% chrome steel with ½% molybdenum
4. 4% to 6% chrome steel with ½% molybdenum
5. 7% to 9% chrome steel with ½% molybdenum
6. 18% chrome, 8% nickel stainless steel.

The manner in which the petroleum industry has cooperated with Construction Section, O.P.C., Division of Refining, Mr. Miller said, has been a source of great satisfaction. It will be this continued cooperation which will get these war plants built. It is hoped that the industry will stand head and shoulders above all others in the matter of accomplishments. The exchange of information and ideas relating to this program will do much towards serving this purpose. Any suggestion will be most thankfully received, Mr. Miller concluded.

Tom Thorley, Dave Walters Enter Armed Forces

Tom Thorley and David E. Waters, both of the Martin-Decker Corp. of Long Beach, Calif., have entered active war service.

Mr. Thorley, a Martin-Decker engineer, was given a Lieutenant (J. G.) commission in the United States Navy and is at the U. S. Navy Training School at the University of Notre Dame. He started with Martin-Decker six years ago, coming from the University of Southern California.

Mr. Waters is now in the Ordnance Department of the U. S. Army, training at Aberdeen Proving Ground. He graduated from the University of Alabama and has been with Martin-Decker three years as one of the Mid-Continent factory representative working with the Reed Roller Bit Co. personnel.

THIS LAUGH

OFF!!

Joe **Jensen** got this one from one of the company's minutemen:

It looked like the beginnings of a fine espionage case, with a Mata Hari angle, when Glendale police arrested an attractive brunette for a minor law infraction. She carried a little black book with such mysterious inscriptions as: "K 1, P 2, CO 8, K 5, YO, K 3, P 2, DECR. 6, K 5, INC. 4."

Neither police nor federal agents were able to decode the inscriptions. Finally they called in the suspect and began to question her. She giggled.

"Oh, that," she replied. "Those are my knitting instructions. They mean knit one stitch, purl two, cast on eight, knit five, yarn over, knit three, purl two, decrease six, knit five, increase four."

The trouble with a lot of marriages is: Hubby is so busy bringing home the bacon that he forgets to bring home the applesauce.

Mac McDowd tells that:

The mess sergeant noticed that one of the trainees had consumed four cups of coffee and was starting on his fifth.

The sarg, seeing added work if too many men got the same idea, decided to nip such an attitude in the bud by remarking a bit bitingly:

"Say, you must like coffee!"

"Sure do," came back the nonchalant private. "That's why I'm willing to drink so much hot water to get a little of it."

Bob Roberts overheard this one:

"Are you an expert accountant?"

"Yes, sir."

"Your written references seem all right, but tell me more about yourself."

"Well, my wife kept a household account for 30 days. One night after dinner I sat down and in less than an hour found out how much we owed our grocer."

"Hang up your hat and coat. The job's yours."

Kenny Cook remembered this one:

"Where will you live when you are married?"

"We've taken a house next to the station."

"But won't the trains keep you awake?"

"The agent said they wouldn't after the first few nights, so we're going to spend the first few nights with mother."

This one sounded fair to **Art Culver:**

A farmer sold a horse to a man from a neighboring town. "This horse is a real bargain," said the farmer, "but I've got to be honest. He has one peculiarity—he likes to sit on apples. When you see an apple orchard in the distance detour around it or you're stuck."

"Thanks for the tip," the buyer replied. "I guess I can manage him all right," and with that he drove off with the horse.

The next day he was back madder than mad. "Listen," he yelled, "I detoured around the apple trees all right but when I was crossing Crippen's Creek he sat down in the water and wouldn't budge an inch!"

The farmer nodded apologetically. "I plum forgot to tell you," he said, "he has one other peculiarity. He likes to sit on fish!"

Bride: "I saved $2.19 out of the allowance this week."

Groom: "That's splendid. How did you do it?"

Bride: "One of the installment collectors didn't show up."

Names used on this page are entirely fictitious, and any resemblance to persons either living or dead is purely coincidental.

This JENSEN UNIT (No. 14DC) is owned by H. B. Moulter & Sons, Beaumont, Kansas. It handles a 2750' well with ¾" rods, 2" tubing and 1¾" working barrel. It makes twenty-one 48" strokes per minute, powered with a Model A Ford engine.

It's an ill wind!

There's a ray of sunshine through our cloud of war-time difficulties.

Producers are more alert and critical. Economy in a pumping unit is more important. Dependability is vital. As a result, new JENSEN JACK customers—men who were never before impressed with the fact that we are the oldest and largest exclusive manufacturer in the field.

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Huggins Urges Allocation Study

A request that field committees study the problems of allocation of oil, made acute by war conditions, and be prepared to recommend proper procedures to the Conservation Committee of California Oil Producers has been sent to all field committee chairmen and vice-chairmen by Paul Huggins, newly-elected chairman of the Conservation Committee.

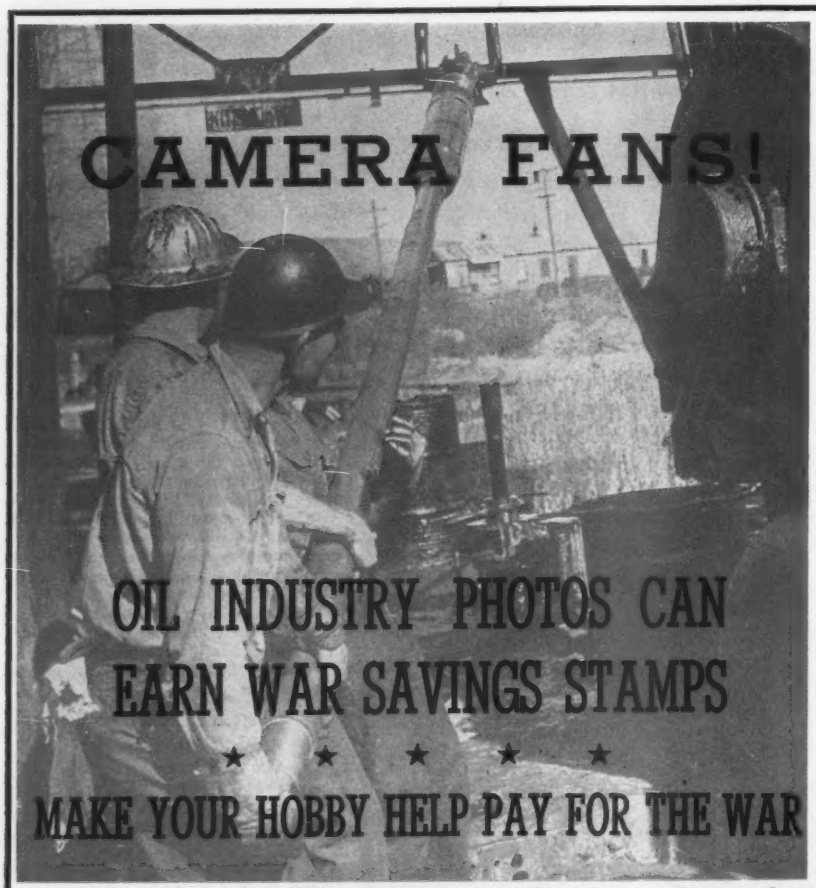
The State's oil producing areas are divided into 26 districts, in each of which there is a field committee composed of operators active in the particular field, whose chairmen and vice-chairmen constitute the Conservation Committee.

In his letter to the committee members, Mr. Huggins says:

"As you know, during the past few months there has been considerable dissatisfaction among producers as to the various methods of allocation used in California. Many problems not heretofore encountered have come into the picture, making an equitable distribution of production more difficult. Product demand for the war effort is one of the major factors.

"It is my opinion that our field committees should be made to realize that they are a part of this organization, and a very important part, and that they should study their particular problems and make their recommendations to the Conservation Committee, and I assure you that so long as I am your Chairman you will get some action. Only by the close cooperation and assistance of the Field Committees can we expect to remedy the present situation, as they are the ones who are familiar with the respective fields.

"I should appreciate your conveying these thoughts to your committee members and to other operators in the field, and solicit their help during the coming year."



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1. Submit good photographic print or negative (negatives will be returned) of any shot showing oilfield, refining, natural gasoline, pipeline or oil administrative activity in any CALIFORNIA area.

2. Submit group photographs of oilfield drilling crews, pipeline crews, refinery staff groups, important meetings or individual photographs possessing current news value.

3. Photographs must be of recent date and properly identified as to time, event and place, and contain the names of identifiable persons in the shot.

●

Remember there is no limit on the number of entries; send every shot which you consider worthy of publication. Editorial credit will be given successful entries, so pack your shots with drama—activity—composition—news—interest. Fill an album with War Savings Stamps by sending your photographic efforts to—

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CALIFORNIA OIL WORLD

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Field Development

Los Angeles Basin

Newhall-Potrero Resumes Activity

Activity in the Newhall-Potrero area is picking up with Barnsdall Oil Co. working two strings and The Texas Co. operating a third. At the southeast extension of the field Barnsdall is rigging up to drill Rancho San Francisco No. 32 as an offset to the recently completed C. G. Willis Ferguson No. 1 near the center of sec. 36,4n-17w, while at the northwest tip of the field in sec. 16, 4n-17w the company is drilling at 4000 ft. in R.S.F. No. 29, which was suspended at 1241 ft. when order M-68 went into effect. Attempting further extension of the field, The Texas Co. is drilling Newhall No. 1 at 5780 ft. in the southwest corner of sec. 22,4n-17w.

Bartholomae To Drill Deep Test

Bartholomae Oil Corp has staked location for Stern No. 12 as a deep test 660 ft. north and 1060 ft. east of the center of sec. 22,3s-10w in the East Coyote field. On the Anaheim Union Water Co. lands in the field Hathaway Co. is rigging up to drill No. 6 in sec. 18,3s-9w, while Graham & Loftus Oil Corp. is preparing to gun perforate for production in P No. 3 on sec. 13,3s-10w. This well was gun perforated for water shut off trial at 3460 and 3610 ft., which resulted in a 500,000 cu. ft. gas blow from the shale beds. Unable to test until the volume was allowed to blow off, a shut off OK was received. The operators are currently preparing to gun perforate for production trys.

Prep To Drill Kraemer Well

Hamilton & Sherman have let contract to Bender Drilling Co. for Kraemer No. 3-2 southwest of Central and Alta Vista Streets in the Kraemer area at Richfield. Currently rigging up, the well is located immediately southwest of the abandoned Milburn & Hamilton, Operator Kraemer No. 3-1 in sec. 31,3s-9w. The prior well bottomed at 4947 ft. and after plugging by stages to 4722 ft. was completed in the summer of 1941, pumping an estimated 75 bbls. of oil cutting 50% water and making an estimated 100,000 cu. ft. of gas. The well had considerable production difficulties and was abandoned early this year.

Wilshire Makes Beach Discovery

Wilshire Oil Co. added to known Huntington Beach field reserves when its H. B. No. 16 was completed in the Jones sand in the tideland area. Located at 21st and Ocean Avenues the well was given O.P.C. permission to perforate the

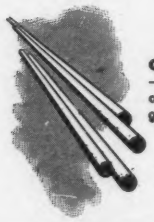
LOS ANGELES BASIN WILDCATS

Area	Well	No.	Section	Depth	Status
Castaic	Mangold & Morse, McDermott	1	26, 5-17	4315	Idle
	The Texas Co., Towle	1	3, 4-17		Grade
	Young, Roy W., Inc., Walker	1	11, 5-16	9981	Drilling
La Mirada	The Texas Co., McNally	A-2	15, 3-11	9511	Drilling
Newhall	Airline Oil Co., Perkins	1	11, 3-16	3500	Drilling
Palos Verdes	Surety Holding Co.	1	22, 5-14	1480	Idle
Puente Hills	Continental Oil Co., Turnbull	3	13, 2-11	5608	Redrilling
	Lytle, Robt. S., Opr., Corehole	B	15, 2-11	1603	Abandoned
	Wernsing & Lester, Dragna	1	24, 2-10	2070	Drilling
Rio Hondo	Potrero Oil Co., Newman	1	32, 1-11	5430	Idle
San Fernando	Barnsdall Oil Co., T.I.T.	1	30, 3-15	5945	Drilling
	Fernando Oils, Ltd., Chatsworth	1	18, 2-16		Rig
	Tide Water Assoc., Sesnon	1	28, 3-16	8912	Completed
Whittier-La Habra	Los Nietos Valley Oil Co., Woodward	1	29, 2-11	50	Resuming
	Orange County				
Anaheim	The Texas Co., Buena Park	1	6, 4-10	9042	Rng. casing
	The Texas Co., Buena Park	4E-1	36, 3-11	9379	Drilling
Bolsa Chica	La Bolsa Ro. Synd., Crane	1	22, 5-11	7310	Idle
Kraemer	Hamilton & Sherman, Kramer	3-2	31, 3-9		Rigging up
Costa Mesa	Thompson, Milton N., Banning	1	9, 6-10	5649	Idle
Yorba Linda	Shell Oil Co., Orlinda Fee No.	4	26-15 15, 3-9		Location
	San Bernardino County				
Carbon Canyon	Stella, E. F., McDermott	2	5, 3-8		Prep. to spud
	Union Oil Co., Newman Bros.	1	2, 3-8	532	Drilling

LOOK TO FLUPACO FOR TODAY'S OUTSTANDING PUMP ACHIEVEMENTS

CAN

WILL *the oil well pump you buy today still be on the job* ***now . . . and the next year . . . and the next?*** **If it's a new Flupaco pump, you can be sure of *longest* possible service, *least* possible maintenance, because these pumps today are outwearing many others as much as *5 to 1* under the toughest kind of pumping conditions. That's a performance point *vitally important* today in pump maintenance. Look at these Flupaco features:**



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—entirely eliminates disadvantages of jacket-plus-liner construction, gives higher production efficiencies.

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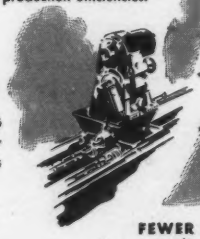
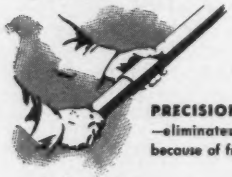
—makes full-length barrel 4 to 8 times harder on its wearing surfaces, doubles and triples service life.



MIRROR-FINISH HONING
—insures smooth, effortless plunger operation in barrel under all kinds of pumping conditions.



PRECISION ALIGNMENT
—eliminates uneven stroking because of free plunger travel.

FEWER REPLACEMENTS
—simple design reduces bulk, cuts weight in many cases to one-fourth of other pumps, eliminates *all* unnecessary parts.

So for your long range oil production program today, use top-performance Flupacos, pumps that are replacing bulky, costly types and streamlining entire production operations. Long-lived Flupaco "Groove Seals" and "Improved Insert" Pumps are available in a range of sizes, types, and metals for all conditions—and they're as economical to buy as to use. Write for details!

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zone in an attempt to effect a new heavy oil discovery. Originally bottomed at 4754 ft., the well was plugged to 3200 ft. and the 8⅝ in. casing perforated at 2959 and 2605 ft. for water shut off trial which proved the zone dry. Long knife perforating at intervals opened the zone and a gravel packed liner was landed at 2965 ft. for pumping trial.

Completed July 29th the well initialed 62 bbls. of 17.7 oil cutting 10.0% for the first 8 hours with the volume gradually rising to 190 bbls. per day and the gravity upped to 19.3 while the cut diminished to 0.8% water. It is reported that only slight traces of sand were noted which is particularly interesting since this is the first time that gravel packing has been used in this area. It is anticipated that many of the tideland wells will be conditioned to utilize the newly discovered production, especially in view of its admirable suitability to meet current demand.

Two Projects In Carbon Canyon

In the Carbon Canyon area of San Bernardino county Union Oil Co. spudded its wildcat Newman Brothers No. 1 in the northeast quarter of sec. 2,3s-8w. The well was last reported drilling at 550 ft. after cementing 12¾ in. surface casing at 310 ft. On sec. 5,3s-8w E. F. Stella is preparing a portable drilling rig for McDermont No. 2 near the north quarter corner of the section.

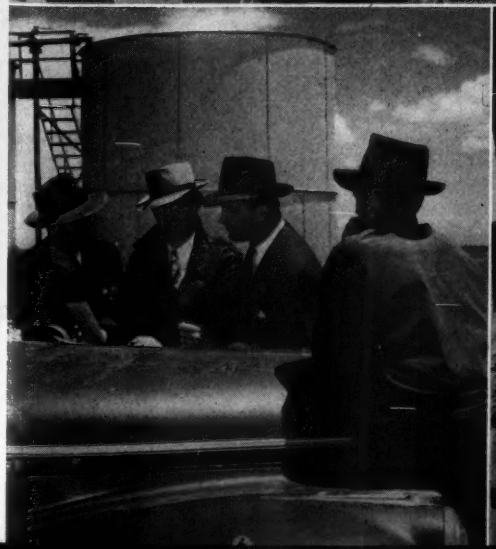
Del Valle Work Yet Continues

In the Del Valle area work progresses with three strings of tools in use. On sec. 16,4n-17w, in the orginal area which he discovered, R. E. Havenstrite, Operator, is coring Barnes No. 2 in shale at 5980 ft. after finding oil sand and shale in the Sherman zone at 5850 ft. A formation test from 5825 to 5874 ft. noted a strong gas blow and recovered some oil in the drilling mud.

In the westerly, or newer section of the field, Ohio Oil Co.'s Vasquez No. 3 in sec. 17,4n-17w is drilling at

(1) Shell executives gather with the drillers around the head of the new well last month as the swab was made ready to bring in the oil. (2) Geologists Arthur S. Huey and Guy Miller were in charge of exploration which located the new field. (3) Men who worked on the wildcat: Ed Chandler, Andy Nelson, Ed Croson, Andy Sesna and G. H. Combs. (4) Another tour goes on duty: George Kalar, Jess Willhite, Phil Slater, R. J. Wilkerson, Lee Ebaugh and B. D. Looney, (5) A third crew, with the smile of success: H. H. Brigham, R. V. Mahaffy, L. M. Durham, E. E. Herring and E. A. Abbott. (6) Checking the production gauge of the new well: S. H. Oatway, A. C. Wright, H. T. Wyatt and Ned Clark. (7) George Kalar, driller on duty when Shell-Williams 45-6 came in, celebrated his twenty-second anniversary with the Company, on the same day. It was the first time he had worked on a wildcat which proved an oilfield. (8) Dr. E. F. Davis, S. Belither, H. T. Wyatt, E. W. Masters, and other executives watch the first flow of oil.

—Courtesy Shell News.



5577 ft, after cementing 11¾ in. casing at 420 ft. To the north in the same section Standard Oil Co.'s offset, Sepulveda No. 3, is turning to the right at 1200 ft. after cementing 11¾ in. pipe at 420 ft.

Frankley-Harriman Quitting Surf Try

Southeast of Huntington Beach, in what is called the Surf area, Frankley-Harriman, Inc. is plugging Mills No. 1 to abandon after bottoming in siltstone and streaks of gray sand showing faint cuts at 4510 ft. Located in sec. 13,6s-11w near the old Standard Oil Co. Surf No. 3, which was completed 20 years ago for 600 bbls. of 20 gravity oil from 160 ft. of formation at 4391 ft., the current try sought a fault trapped accumulation of comparable production. It is believed that the present driller did not penetrate the same sands but did find the upper fingers wet and the well running too low structurally to warrant further drilling. Some oil stains were found in the shale partings of the upper Miocene which was entered near 3800 ft.

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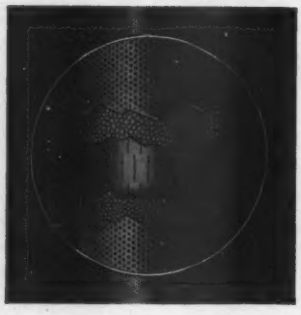

Pacific Liners are as easy to run—and as safe—as solid pipe. The outer perforated screen which supports the uniform gravel pack is made of *sheet steel,* rolled to size and welded. It's strong, round, smooth, and won't tear on obstructions—*yet it actually has more open area per square inch than wire mesh!* That's why Pacific Liners combine maximum filtering efficiency PLUS rugged strength.

You can get Pacific Pre-Packed Liners in sizes to fit *your* well—and in wrought iron, Armco ingot iron, or cold-rolled alloy steel to meet all well problems. Write for informative bulletin—*today!*

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Texaco To Test Buena Park Well

The Texas Co.'s Buena Park One No. 1 in sec. 6,4s-10w, immediately southeast of the discovery Spencer No. 1 in the Buena Park-Anaheim area, was bottomed at 9042 ft. in shale, gray sand and streaks of oil sand and is currently standing with 7 in. casing cemented at 8517 ft. It is planned to gun perforate the best sand phases for trial in a sharpshooting program similar to that followed in the discovery well. Located some 150 ft. higher on structure than the first well, this well is reported to offer a production problem since the sands encountered are believed to grade together without pronounced shale partings. Immediately northwest of discovery, in sec. 36,3s-11w the company's Buena Park 4-E No. 1 is coring ahead without great promise at 9634 ft. Running very low by present standards the well recovered some heavy oil emulsion on a formation test at 9344 ft.

In the La Mirada area The Texas Co.'s McNally No. A-2, deep test of sec. 15,3s-11w, is repairing equipment after coring and drilling to 9623 ft.

W. Huntington Beach Activity Resumed

At the westerly flank of the Huntington Beach field Signal Oil & Gas Co. and Standard Oil Co. have resumed development in the Bolsa area. Signal Oil & Gas Co.'s program began with Signal Bolsa No. 34-A, currently standing with 12¾ in. surface casing cemented at 258 ft. This operation will be resumed late in July since the company has again given its field crews vacation simultaneously. The well will be followed by four additional projects on the lease.

In the next southerly section, 3,6s-11w, Standard Oil Co. is rigging up

to spud Huntington No. A-37 approximately 1000 ft. west of the intersection of 23rd street and Wesley Avenue. Some 1320 ft. to the north the company has located No. A-38.

Union Oil Plugs Deep Basin Try

Union Oil Co.'s deep Rosecrans-Athens field try, Howard Park No. 33, is completed at plugged depth of 6494 ft. after finding the deep zones barren at 8171 ft. With 7 in. water string cemented at 6190 ft. and perforated 5½ in. liner landed on the plug, the well was finished flowing 356 bbls. of clean 33.5 gravity oil and 214,000 cu. ft. of gas through a ½ in. bean.

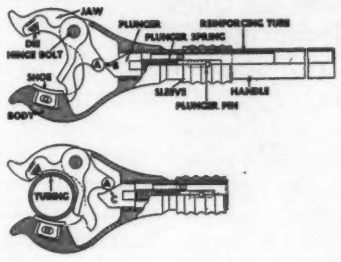
Hellman Suspends Seal Beach Well

Hellman Estate Co.'s attempt to extend production at the southeast edge of the Seal Beach field failed when the Selover and Wasem zones tested wet at total depth of 5717 ft. Currently suspended, it is understood that the well's physical properties will be used to whipstock some 600 ft. southerly and try the company's No. 7 location from this surface location in sec. 12,5s-12w.

BJ Offers New Tubing Tong

Due to utilizing a different principle, the BJ Type T Tubing Tong can be applied with a "stab on" motion, and will not thereafter droop, slide down or fall off when it is passed around or ratcheted. It also can be applied by holding the plunger in a retracted position until the tong is closed around the pipe, then allowing the plunger to move forward, thus eliminating any danger of causing a spark from the metal-to-metal contact of the die and pipe. The upper illustration shows the hinged jaw in the position it takes when the tong is removed from the tubing. When the plunger is retracted into the handle the rounded portion (A) of the jaw is held on the flat end of the plunger (B) by the force exerted by the compressed plunger spring. When the tong is "stabbed on" the tubing strikes against the inner face of the jaw with sufficient force to move the rounded portion (A) off the flat (B) at the end of the plunger. The plunger spring is then released and the plunger moves forward until the rounded portion (A) is in position on the wedging face of the plunger, as shown in lower view.

The strength of the plunger spring is



sufficient to hold the tong in position safe from sliding down or falling off the tubing, but the tong is easily ratcheted.

To remove tong from tubing the plunger spring is pulled back to retract the plunger, and the slidably mounted shoe assists in releasing without sticking. The rounded portion (A) then takes the position shown in the upper view, holding the tong open and ready for use.

The tong also is successfully used as a lay tong for pipe line or refinery service, when the plunger is equipped with a long stem which extends to the end of the handle, and a hand grip on the end of the stem which slides in and out of the handle end and does not prevent the use of a snipe.

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San Joaquin Valley

Richfield Quits Grapevine "Cat"

The abandonment of Richfield Oil Corp.'s Tejon Ranch No. 3 near the west quarter corner of sec. 7, 10n-19w writes a temporary finish to the company's extensive wildcatting program on its vast south Valley holdings. Bottomed at 8400 ft., the well was bridged at 485 ft. and put on the hook after finding the Vaqueros barren near 8375 ft. Richfield has drilled full hole tests plus many coreholes over a large portion of its regional acreage but has not yet fully explored the full possibilities of the holdings, and it is probable that the program will continue.

East of here Reserve Oil & Gas Co., with Bell & Loffland doing the digging, has spudded Tejon No. 33-6 in sec. 33,11n-19w. Last reported at grass root stages, the well seeks better accumulations of sand bodies than were found in the original Grapevine Pool drilling.

To the north in the Commanche Point area, La Barat Syndicate spudded Ham Johns No. 1 in sec. 5,11n-18w and is preparing to core from 1000 ft. after finding the top of the tar zone at 600 ft.

Burrel Strike Now Completed

Amerada Pet. Corp.'s Truman No. 4-6, on sec. 6,17s-18e in the Burrel area of Fresno county, may now be officially considered a new discovery. With the large volumes of gas found in the 7970 to 8020 ft. zone

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SAN JOAQUIN VALLEY WILDCATS

Area	Well	No.	Section	Depth	Status
	Fresno County				
Burrel	Amerada Pete Corp., Whitty	1	1, 17-17		Grade
	Amerada Pet Corp., Truman	4-6	6, 17-18	8295	Completed
Guijarral Hills	Lytle, Robt. S., Opr., Well	68-28F	28, 20-16	10648	Drilling
Helm	Amerada Pet. Corp., Weyant	37-27	27, 16-17	8160	Completed
	Amerada Pet. Corp., Clover	75-34	34, 16-17	1782	Drilling
Jacalitos	Wilshire Annex Oil Co.	23-26E	26, 21-15	3787	Abandoned
	The Texas Co., Ferguson	1	32, 21-16		Grading
Mendota	Jergins Oil Co., Cheney Ranch	3	30, 14-13	7703	Abandoned
Riverdale	Amerada Pet. Corp., Brunn	58-15	15, 17-19	650	Drilling
	Amerada Pet. Corp., Clemente	74-22	22, 17-19	6840	Completed
	Amerada Pet. Corp., Zanolini	38-23	23, 17-19	6840	Completed
	Amerada Pet. Corp., Lawton	58-26	26, 17-19	11620	Sidetracking
	Kern County				
Comanche Point	L. E. Barat Synd., Ham Johns	1	5, 11-18	750	Drilling
Devils Den	Moran, Robt. B., Opr., Beer	1	19, 26-19	1447	Reaming
Edison	M.T.M. Associates, Well	1	23, 30-30	956	Idle
Grapevine	Reserve Oil & Gas Co., Tejon	33-6	33, 11-19	477	Drilling
	Richfield Oil Corp., Tejon Ro.	3	7, 10-19	8400	Abandoned
Kern Front	Standard Oil Co., Well	42-9	9, 28-27	1490	Drilling
Kettleman-So.	Bristol Oil Corp., Hellman	1	2, 25-19	2174	Idle
McKittrick	Americal Pet. Inc., Americal	1	2, 30-21	4491	Drilling
McKittrick Front	Westates Pet. Corp., Kimball	3	32, 29-22	15	Tech. spud
Midway-NW.	C.C.M.O. Co., Thomas	1	1, 31-21		Grade
	C.C.M.O. Co., Well	24-1	1, 32-22		Grade
Midway-SE.	The Texas Co., P.U.P.	2	33, 11-23		Rig
Mt. Poso	Delaney, Fred G., Well	1	12, 27-27		Location
	Recovery Oil Co., U.S.	1	34, 26-28	1398	Bailing
	Trico O. & G. Co., Glide	1	1, 27-27		Rigging up
	The Texas Co., Lambert Lds.	1	29, 26-28	2010	Abandoned
	Vedder, Dwight G., Glide	29-2	29, 27-28	2361	Abandoned
Paloma	Gen. Pet. Corp., Gallagher	61-33	33, 31-26	8385	Idle
	West'n. Gulf Oil Co., L.A.C.	36-1	1, 32-26		Foundation
Shale Hills	Tideland Oil Co., Grant Est.	1	4, 27-28	4064	Idle
	Kings County				
Alpaugh	Elmer C. vonGlahn, Well	1	4, 23-22	660	Drilling
Pyramid Hills	Miesse, Richard S., Jackie	1	22, 24-17	315	Idle
	Pac. O. & G. Dev., West Slope	2	20, 24-18		Location
	Tulare County				
Tulare	Richfield Oil Corp., Churchill	1	35, 20-24	4530	Drilling
Trico	Trico Oil & Gas Co., T.W.A. Fee	1	16, 24-23		Completed

under control, the well was completed flowing 63.5 gravity condensate at a 190 bbl. rate and 3,749,000 cu. ft. of gas through an 18/64 in. bean under 2330 lbs. flow pressure.

Located four and a half miles south of Amerada's Helm field, the strike is the third such discovery which the company has made in Fresno county since last summer. The current well bottomed in Cretaceous at 8295 ft. and plugged back to 8020 ft. where a formation test flowed condensate and 10,000,000 cu. ft. of gas from the 50 ft. lower Miocene zone.

Intending to continue development of the area, Amerada has graded location for Whitty No. 72-1 in the northeast corner of sec. 1, 17s-17e, some 1800 ft. to the northwest of the new production.

Guijarral Hills Well Getting Deep

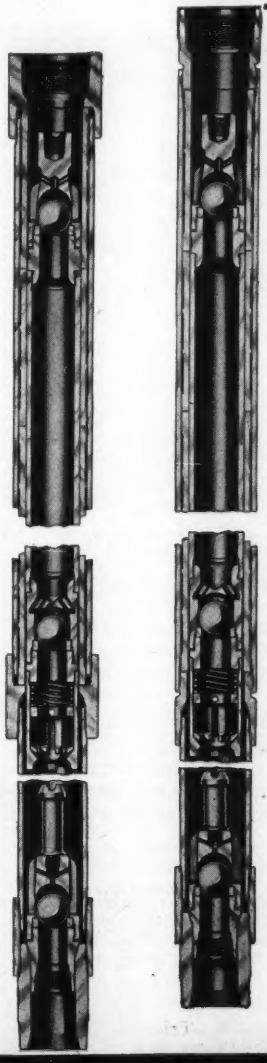
Robert S. Lytle, Operator, who is heading a combination to test the saddle lying between Coalinga Eocene production and the Kettleman North Dome field of Fresno county, is drilling No. 68-28F below 10,640 ft. in sandy siltstone. Located in the southeast corner of sec. 28,20s-16e, the well sought production in the Temblor and Vaqueros sections of the Miocene or the Avenal section of the Eocene, all of which zones are productive in the adjacent fields. Already deep in the geologic section the well found the top of the Eocene near 9400 ft. while the Temblor was passed at approximately 6700 ft. with none of the zones showing promise. Formation tests of oil stained Eocene sands at 9456 ft. recovered only fresh water with a trace of distillate. Now drilling in very old formation the operator has not recently placed the well in the Geologic column, but it must be assumed that the well is being carried to Cretaceous for an adequate test of the area.

The leak-proof gas tank on one big bomber requires over 1,200 pounds of rubber.

Helm & Riverdale Field Development Continuing

Amerada Pet. Corp., discoverer of both the Helm and Riverdale production in Fresno county, is continuing development of the districts. Having just finished Weyant No. 37-27 in the Helm area for 219 bbls. of clean 33 gravity oil and 98,000 cu. ft. of gas through a 12/64 in. control bean from 8116 ft. the company is drilling Clover No. 75-34 at 1800 ft. in the southeast quarter of sec. 34,16s-17e.

In the Riverdale area the company recently finished Clemente No. 74-22 and Zanolini No. 38-23 from the 6840 ft. level flowing approximately 200 bbls. of clean 36 plus gravity oil through small orifices in controlled completion jobs. Headed for more of the excellent Temblor zone production are Brunn No. 58-15 in sec. 15,17s-19e and Jensen No.



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52-26 in section 26 of the township. Both are recently spudded and are drilling just below 1000 ft. The company's deep test, located in the southeast corner of section 26, is sidetracking a drill pipe fish at 11,460 ft. after reaching 11,620 ft. in Cretaceous shale topped at 8150 ft. The Eocene section was relatively thin at this point since the age was entered at 8000 ft.

Richfield Finishes Coles Levee Well

Richfield Oil Corp. finished KCL-B No. 25-27 in sec. 27,30s-25e from 9398 ft. flowing 1629 bbls. of 33.6 gravity oil and 1,3000,000 cu. ft. of gas through 2-1½ in. beans. With the flow orifice reduced to one 14/64 in. bean the last recorded production was 881 bbls. of clean 33.6 gravity oil under 950 lbs. tubing and 1440 lbs. casing pressure.

In section 29 the company is rigging up to spud KCL-A No. 63-29 and has graded for KCL-B No. 52-31 in section 31 while KCL-C No. 41-34 in sec. 34,30s-25e is coring for the oil sand at 9049 ft.

Trico Again Hits Gas Field Outpost

Trico Oil & Gas Co., who recently pushed the northwesterly limits of the Trico gas field to the center of sec. 17,24s-23e by completing Lee No. 2 flowing more than 27 million cu. ft. of gas, has again broadened the northerly scope of the rich gas field. The successful outpost this time was T.W.A. Fee No. 1 in the center of the adjacent section 16, which was finished from 2540 ft. and shut in without gauge. While no production estimates are available, it is reported by observers of the extremely short flow trial that its volume seemed no less than the other next extension.

Mount Poso Area "Cats" Active

Wildcatting in the Mount Poso area is continuing in a search for the desirable east Valley oil. On sec. 1,27s-28e, Alpha Oil Co. resumed drilling its C. V. Elliott No. 1 and was last reported drilling in extremely hard formation at 1540 ft. Fred G. Delaney is reported ready to start on sec. 12,27s-27e while Trico Oil & Gas Co. is rigging up to drill Glide No. 1-1 immediately northeast of the center of sec. 1,27s-27e.

Recovery Oil Co. resumed operations on its U.S. No. 1 on sec. 24, 26s-28e and was last reported bailing sand and oil from redrilled depth of 1345 ft. On sec. 29,26s-28e, The Texas Co. failed at finding a new accumulation with Lambert Lands No. 1 and abandoned at 2010 ft. after entering barren Vedder sand at 1808 ft.

In the Mount Poso proved area C.C.M.O. Co. finished Mon No. 4 in sec. 26,27s-28e for 75 bbls. of 15 gravity oil from 1476 ft. and is bail-

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BC-33LFO-10	40,000 INCH LBS.	8.1	10,000 LBS.
BC-37LFO-12	60,000 INCH LBS.	12.15	12,000 LBS.

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ing for production on Mon No. 5 after entering the good Vedder at 1501 ft. and bottoming at 1552 ft. Signal Oil & Gas Co. completed the last of its wells east of the main pool when Glide No. 23-2 in sec. 23,27s-28e was finished from 1488 ft. pumping some 80 bbls. of clean 16 gravity oil. Union Oil Co. is completing S & M No. 33 in sec. 4,27s-28e at 1934 ft. and has poured foundation for No. 32 in the same section.

Petroleum Course In Map Drafting

The Oil Map Revision Association, composed of representatives of the seventeen member companies, takes pleasure in announcing the successful launching of a class in petroleum map drafting.

The Association has for some time realized that skilled petroleum draftsmen are not only being rapidly drawn into the armed services and other industries, but that adequate replacements for these men are not available. With a view toward training personnel in this specialized field, the Association developed a course in Petroleum Map Drafting which now is included in the Engineering, Science, and Management Defense Training Program, sponsored by the United States Office of Education, and conducted by the University of Southern California.

This course is being conducted in two sections, one at Bakersfield, and the other on the U. S. C. Campus. Some forty students are enrolled in Bakersfield, and around sixty in Los Angeles.

In addition to a regular instructor, other members of the Oil Map Revision Association function as guest instructors, each preparing a lecture on some phase of petroleum mapping, which will be delivered in both localities. A 15 weeks course commenced in Bakersfield on May 13, and in Los Angeles on May 20, 1942.

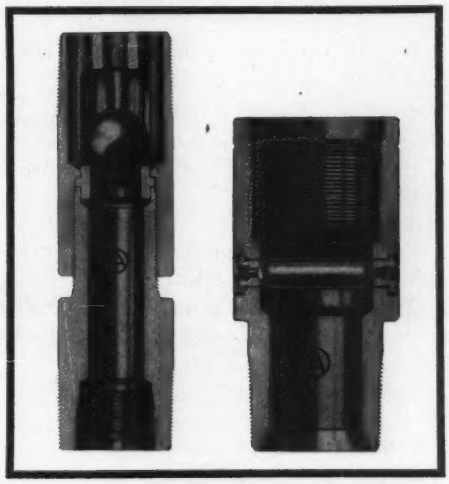
The members of the Oil Map Revision Association actively engaged in the program are:

Instructor at Bakersfield: R. N. Williams, Honolulu Oil Co. Instructor at Los Angeles: H. F. Peterson, Shell Oil Co., Inc. Guest Instructors: M. H. Kibbe, Union Oil Co.; H. N. Sanders, Ohio Oil Co., and C. G. Burkhead, Superior Oil Co. J. G. Gilbert, The Texas Co.; Gordon Wells, Pacific Western Oil Co.; E. B. Waggoner, Superior Oil Co.; G. R. Shepphird, Richfield Oil Co.; Ralph Brodek, Western Gulf Oil Co.; V. L. Nelson, Seaboard Oil Co.; L. C. Thomson, General Petroleum Corp.; E. B. Goodban, Standard Oil Co., and V. L. Mosbacher, Office of Oil Administrator.

Each representative has devoted his time and personal efforts to this program confident that it will produce junior draftsman who can efficiently serve member companies in the future.

The lumber in two average desks would provide enough material to build a trailer for a war worker.

This AXELSON Combination is a time and money saver!



AXELSON 50th YEAR 1892 1942 THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

In certain fields, once you pull a pump, production doesn't immediately come back after the pump is re-run! To again pump fluid to a production level involves a needless drain on power unit. Particularly adaptable for low fluid level wells or "wet" wells is the combination of an Axelson Tubing Bleeder and Barrel Bottom Valve.

This combination prevents dumping back fluid into the well and thereby saving many hours of time in pumping fluid back to the surface. Another important feature is that if you want to bleed tubing after pulling the pump drop the "go devil," which knocks plug assembly from bleeder and fluid will then drain from 2 ports. The oversize capacity of the Barrel Bottom Valve allows large amounts of fluid to be handled in the tubing type pumps. Threaded joints, of extra length, insure greater rigidity and freedom from accidental loosening.

If you have a particular problem, write Axelson today! They will be pleased to supply you with complete information.

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AXELSON

SELLS AND SERVICES

OIL WELL PLUNGER PUMPS & SUCKER RODS

Coastal District

Cat Canyon Field Sees New Activity

In the old Cat Canyon field, the Pacific Western Oil Corp. spudded in Los Alamos No. 18 on a portion of the old Bell Ranch in sec. 1,8n-33w. With 12¾ in. casing cemented at 334 ft., the hole was last reported at 516 ft. under contract to Kern Drilling Company.

To the southeast, in the Los Olivos area, Tide Water Associated Oil Co. is drilling Davis No. 1 in sec. 33,8n-31w. The well is currently coring and drilling ahead in silty shale at 3796 ft. after cementing 13⅜ in. pipe at 526 ft. Oil stained silt was cored below 3050 ft.

Further exploratory drilling is planned by the Hub Oil Co., who contemplates staking a well on sec. 7,7n-30w.

Pacific Western Active At Piru

On property situated three miles north of Piru in sec. 4,4n-18w, the Pacific Western Oil Corporation is drilling ahead on Temescal No. 12, after coring oil sand from 2610-2770 ft. Bottom of the hole is now at 3100 ft., with 12¾ in. casing cemented at 500 ft.

This parcel is one which was purchased several years ago by E. L. Doheny, who apparently guessed correctly regarding its possibilities as a producing area. Pacific Western recently completed Temescal No. 11 at a depth of 3267 ft. for 200 barrels a day of 19.8 gravity oil, cutting 20% and will soon stake location in the area for Temescal No. 13.

Only other active operator in this area is the Continental Oil Co., who is drilling ahead in brown shale at 4892 ft. on Holser No. 1. Located in the Ramona anticline area, this well hopes to uncover a new field in the chain formed by Oak Canyon and Del Valle fields. Oil sand, shale and shells were cored from 4103-4344 ft. and oil was swabbed for an estimated 30 barrels a day rate at 4535 ft.

Richfield Completes Ojai Area Wildcat

Richfield Oil Corp. has completed its Ventura county deep-test Ojai No. 44, for 46 barrels a day of 17.8 gravity oil, cutting 31% from plugged depth of 5111 ft. Located in sec. 13,4n-22w, five miles southeast of Ojai adjoining old shallow production, it became one of the deepest wildcat wells ever drilled in this county, when it bottomed at 8755 ft.

Steeply dipping Miocene shale was cored below 4030 ft., with dips averaging between 70 and 80 degrees below 5600 ft. After recovering Vaqueros shale at 7035 ft. and hard brown shale at 8645 ft., the well was plugged back to 5411 ft., where 4¾ in. liner including 81 ft. of perforations was landed on the plug. After swabbing salt water with a trace of oil, the hole was replugged to 5111 ft. and gun perforated at intervals from 2425 to 4357

COASTAL COUNTIES WILDCATS

Area	Well	No.	Section	Depth	Status
	Santa Barbara County				
Cat Canyon	Alphonzo E. Bell Corp., Gilmore	1	23, 9-33	6457	Testing
	Standard Oil Co., Los Flores	5	33, 9-33		Foundation
Lompoc	Alphonzo E. Bell Corp.. Lompoc	6	28, 8-34		Graded roads
	Fickert Oil Co., Ltd., Well	1	8, 7-33		Rig
Los Olivos	Tide Water Assoc O. Co., Davis	1	33, 8-31	3796	Drilling
Orcutt	Standard Oil Co., Rice Ranch	1	14, 9-34	8326	Drilling
	Ventura County				
Bardsdale	Atha, George C., Assoc. Flory Beach	11	17, 4-19		Grade
	Hopland Oil Co., Well	1	1, 3-19	4634	Idle
	Santa Marino Oil Co., Elkins	1	7, 3-19		Grade
	Ventura Southern Oil Co.	G-1	19, 3-19	4179	Idle
Conejo	Sycamore Oil Co., Boylan	1	23, 1-20	2610	Drilling
	L. A. Basin Oil Co., Well	1	4-1-20	867	Drilling
Eureka Canyon	Phillips & Nichols, Well	2	33, 4-18	227	Drilling
Ojai	Coates, Spencer D., Pirie	5	7, 4-22	741	Drilling
	Kelalee Pet. Co., Harvey	1	8, 4-21		Rig
	Richfield Oil Corp., Ojai	44	13, 4-22	5111	Completed
Piru	Continental Oil Co., Holser	1	14, 4-18	4892	Deepening
	Delroy Pet. Corp., Fisk C. H.	1	22, 5-18	2280	Idle
	Pacific Western Oil Co., Temescal	12	4, 4-18	3100	Drilling
Red Mountain	Shell Oil Co., Inc., Wood	1	7, 3-23	3780	Drilling
Timber Canyon	Crude Oils., Inc., West	1	19, 4-20	958	Idle
	Denison, A. T., Denison	1	13, 4-21	1625	Testing
	Henderson-Ortez Oil Co., O'Leary	1	29, 4-20		Rig
Torrey Canyon	Union Oil Co., Torrey	60	5, 3-18		Location

NORTHERN COUNTIES WILDCATS

County	Well	No.	Section	Depth	Status
Colusa	Pacific National Pet. Corp.	1	17,17n-4w	1402	Idle
Contra Costa	Tide Water Assoc., Bethel Is.	1	9, 2n-3e	4975	Abandoned
Madera	Blake, T. E., Chuck	1	28, 10s-17e		Rig
	Pac. West'n. & G. F. Getty, Clifford	1	12, 9s-17e	558	Abandoned
Merced	T.W.A.-Seaboard Oil Co.'s Turlock Land	37-18	18, 6s-11e	3535	Drilling
Monterey	Loma Grande Oil Co., Corey	1	23,24s-10e	4318	Rng. witch
Sacramento	Standard Oil Co., Tersehuron	1	27, 4n-3e	250	Drilling
San Benito	Superior Oil Co., Reay	1	35,16s-11e	3229	Drilling
	The Texas Co., Henderson	1	33, 16s-12e		Grade
	Union Oil Co., Friedman	1	13, 16s-11e		Location
San Joaquin	Standard Oil Co., Blewett Com.	3	23, 3s-6e		Rig
Solano	Standard Oil Co., Suisun Com.	2-1	25, 3n-1w	7394	Testing
Stanislaus	Don Pedro Oil Co., Newman	1	9, 6s-9e	4074	Flowing water
Sutter	Buttes Oilfields Inc., Buttes	8	28, 16n-2e	5561	Idle
Yuba	Wright, L. G., Cox	1	18, 14n-5e	1805	Idle

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TIDE WATER ASSOCIATED OIL COMPANY

Oil is Ammunition — Use it Wisely

ft. With 2½ in. tubing at 3506 ft., the well was completed pumping to sump at an initial rate of 52 barrels in 16½ hours. Oil recovered is 17.8 gravity and cuts approximately 30% mud and water.

Other operators in the Ojai-Santa Paula area include Spencer D. Coates, who is drilling ahead on Pirie No. 5, sec. 7,4n-22w, after reporting oil sand from 630 to 637 ft., and Kelalee Petroleum Co. who has rig up for Harvey No. 1 in the southeast portion of sec. 8,4n-21w.

O. C. Field Again Active at Gato Ridge

O. C. Field has returned to the Gato Ridge field of Santa Barbara county by staking location for Texas Fee No. 1, 940 ft. northwesterly on the north line of the Texas Fee property from corner "C" of Ro. Los Alamos thence 200 ft. southerly at right angles in sec. 4,8n-32w. This company completed some wells on its Continental lease as early as 1937 at depths approximating 3700 ft. showing production figures of 350 barrels a day of 12.5 gravity oil cutting 1%.

Most recent of the successful wells at Gato Ridge is the Petrol Corp. Magenheimer No. 661, in the same section as the new Field's location. Encountering Miocene formation at 3100 ft. and the top of the chert at 3600 ft., this well was completed at a depth of 4209 ft. pumping 10 gravity oil at a 180 bbl. daily rate.

Republic Petroleum Co. has suspended on its Price No. 1 in section 16,8n-32w after plugging the 4994 ft. hole at 4260 ft.

Pacific Pump Works Executives in Survey

To personally survey the extensive plant expansion now completed by the Pacific Pump Works, Pacific executives and executives of the affiliated eastern companies met in Los Angeles, June 22, 1942. In this group were J. B. O'Connor, vice-president of Clark Brothers and chairman of the board of directors of the Pacific Pump Works; C. P. Clark, president of Clark Brothers and vice-president of the Dresser Corp.; A. R. Weis, president of the Pacific Pump Works; and Elmer Weis, vice-president of the Pacific organization. Pacific Pump Works and Clark Brothers Co. are affilates of the Dresser Corp., as is the Bryant Heater Co. of Cleveland.

In speaking of the expansion work already completed, Mr. Clark who is a director of Pacific said: "Although we have already doubled the acreage covered by our Los Angeles plant, trebled the square footage of plant building and quadrupled the number of employes, we plan to go even farther if the War Production Board indicates that we can thus serve the United Nations better.

"Every affiliated plant is working on an all-out basis in producing materials for our war effort. It can truthfully be said that each concern is now 100 per cent on war production and intends to continue on this basis for the duration."

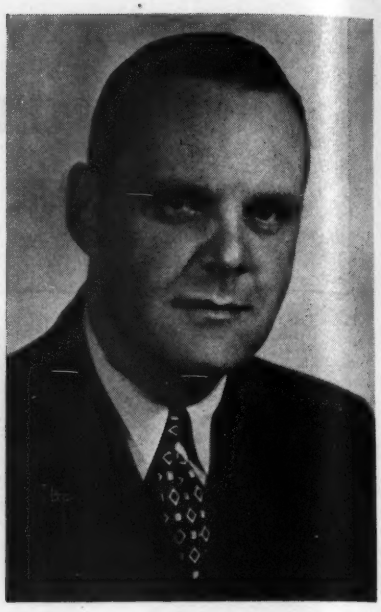
From Mr. O'Connor came a statement of interest, having to do with sales and service efforts of the affiliated organizations. Mr. O'Connor said: "Since all of our peace-time customers are now on war production work—where quick delivery is of the utmost importance, every effort is being made to supply them with needed products and materials wherever possible. Sales engineers and service men from each company are working with customers helping them to handle problems of maintenance and increased production volume.

"Our affiliated organizations are operating on the basis that every coupling, engine or pump that can, through proper maintenance and service, be made to do for the duration, provides just that much more material and more man-hours for the production effort. Our many friends throughout the industry have been most understanding and cooperative in this connection."

From A. R. Weis, it was learned that the group will spend the balance of the week in the Southern California area, occupied with numerous conferences and much industry research. From Los Angeles the executives' itinerary will take them to San Francisco, the Pacific Northwest and ultimately eastward.

John H. Kunkel Heads N. I. A. A.

At the annual business meeting of the members of Industrial Advertising Association of Southern California, a chapter of National Industrial Advertisers Association, John H. Kunkel, Director of Public Relations and Advertising for The Fluor Corp., Ltd., was elected and installed as president of that association to serve for the 1942-1943 term. Also elected to office were W. W. Mann, Account Executive, The McCarty Co., vice-president;



John H. Kunkel

and J. Brewer Avery, Research Editor, Western Business Papers, Inc., secretary-treasurer. The Board of Directors includes Retiring President Don Mack, Weber Showcase & Fixture Co., Inc.; R. Calvert Haws, Western Precipitation Corp., and R. C. Wipperman, Petroleum Engineer.

Membership of Industrial Marketers of Southern California is composed of advertising men and sales executives interested in the field of industrial advertising, sales, and marketing who meet once each month on the common ground provided by the association to discuss their problems. Through affiliation with National Industrial Advertisers Association and, as that body's Southern California Chapter, activities are correlated to the national picture.

The new officers of the association, carrying on the work of the retiring administration, have as their objective a widening of the scope of the organiation's service to industry through increased membership of advertising men and sales executives. It is pointed out that participation in such an association's activities through membership is important under contemporary conditions due to the fact that, today more than ever before, industrial advertising is not static but it is, instead, a field presenting constantly changing problems imposed by the war. To study and solve these problems through papers presented by authorities and by the interchange of ideas as well as to prepare to meet the huge industrial advertising problems of the post-war period is the announced program of the association for the 1942-1943 term.

Nomads Are Active In Dutch Relief Drive

Catastrophe which struck Netherlands East Indies not only deprived the United Nations of vitally needed war supplies, but also brought bitter hardship upon seventy million people in the Indies. It is to aid these victims of Japanese aggression, and the eight million Hollanders under the Nazi whip in their homeland, that the California NOMADS have undertaken to help in the Dutch War Relief in the Pacific petroleum industry.

The Allies, it is pointed out, include no member that has contributed more, has fought more bravely or endured greater suffering than Holland and the Netherlands East Indies, as a result of the invasion by Axis powers. Thousands of refugees have escaped to England, France, Australia, America and to other countries. Other thousands are confined to concentration camps. Millions of men, women and children are daily suffering ever-increasing hardships in Holland and its overseas territories. Many of these persons are without clothing, food or funds. Many are ill or wounded. Thousands lost all their worldly possessions and have nowhere to turn for assistance but to us.

Chairman of the National Executive Committee of The Queen Wilhelmina Fund, Inc., is R.G.A. van der Woude, president of Shell Union Oil Co. In setting forth the immediate need of $500,000 and an additional goal of $2,500,000, The Queen Wilhelmina Fund, Inc., recalls the thriftiness of the Netherlands peoples and their dislike of calling upon charity.

While the active support of the NOMADS should sufficiently accredit the campaign for the oil industry, the following quotations are worthy of particular note:

"Our Organization (The Queen Wilhelmina Fund, Inc.) has the approval of the Netherlands government in exile."—S. L. Lucas, for R. G. A. van de Woude.

"The Queen Wilhelmina Fund meets the standards of the National Information Bureau."—B. D. Burhoe.

"This letter constitutes notice of acceptance of your registration for the purpose of soliciting and receiving, within the limits of the law, contributions for use in the Netherlands; France; Poland; the United Kingdom; India, Australia, New Zealand, Canada and the Union of South Africa; Norway, Belgium and Luxemburg. Your organiaztion has been assigned notice of acceptance number 319 . . . "—Charles W. Yost, Acting Chief, Division of Controls, Department of State, Washington, D. C.

"Contributions made to you (The Queen Wilhelmina Fund, Inc.) are deductible by the donors in arriving at their taxable net income in the manner and to the extent provided by Section 23 (O) and (Q) of the Internal Revenue Code and corresponding provisions of prior revenue acts."—Treasury Department, Washington, D. C.

POWERANDOS

...open second front

● Creating a second front in Europe is a big job, a complex job . . . for the armed forces . . . over there . . .

But there is a second front . . . *in industry* . . . over here!

It, too, demands unusual imagination, practical experience, long training, unified direction—by men of action!

WHO ARE THESE MEN? Waukesha calls them *the Powerandos!* The industrial counterparts of the famous Commandos, they are *picked men*—fearless and independent in their thinking . . . with regular service behind them . . . possessing the "know-how" technique . . . alert and ready for any mission. They go into action according to precise plans. Their leader is Waukesha's "Chief of Combined Operations"—and his is a unified command . . .

They are Waukesha engineers and engine builders—all veterans of industry's first-front battle of production.

HERE'S HOW THE POWERANDOS MET THIS SITUATION

To push oil production on to new peaks in the cause of the United Nations, a super-modern drilling rig was needed for use across the Pacific. The rig was built by the National Supply Co.; and Waukesha engineered the tremendous multiple-engine power plant. Six of the rig's seven Waukesha-Hesselman Giant Oil Engines (2894 cu. in. displ. each) are shown; the seventh is an auxiliary mud pump mixing engine. Besides these seven, four other Waukesha-Hesselman Oil Engines supply auxiliary power.

WAUKESHA MOTOR COMPANY, WAUKESHA, WIS.
NEW YORK • TULSA • LOS ANGELES

MORE POWER TO VICTORY

WAUKESHA ENGINES

Edison Promotes Kenyon and Hayes

R. G. Kenyon, Southern California Edison advertising manager for the past ten years, has been made assistant vice-president of the company, and Howard W. Hayes has been advanced to the position of advertising manager, Harry J. Bauer, Edison president, announced July 1.

R. G. Kenyon

Howard W. Hayes

Mr. Kenyon has been with the Edison company for 25 years. Before becoming assistant advertising manager in 1926, and advertising manager in 1932, Mr. Kenyon had been in the company's accounting department, securities department, and was assistant supervisor of employment. He is a director of the Public Utilities Advertising Association, a past president of the Los Angeles Advertising Club, and a trustee of Occidental College. He resides in San Marino.

Mr. Hayes has been assistant advertising manager since 1932, and has been with the Edison company 15 years. Previously Mr. Hayes was on the editorial staff of newspapers in Pasadena, Santa Monica, and Visalia, and was on the staff of the Associated Press in Los Angeles and Phoenix. His home is in South Pasadena.

G-E Schenectady Works Gets Navy "E"

The Navy "E", symbol of excellence in furnishing material for the U. S. Navy, has just been awarded to the General Electric management and employees of the Schenectady (N.Y.) Works, according to Raymond M. Alvord, commercial vice president of the company.

The company is producing a wide variety of important operating and fighting equipment for the Navy, including big propulsion sets, auxiliary power generation equipment, searchlights, switchgear and protective devices, lighting and other electrical accessories.

Chairman of the Navy board of production awards, Rear Admiral W. T. Cluverius, U.S.N. (Ret.), made the presentation of the Navy "E". The blue pennant, bearing an anchor and the letter "E" will fly for six months. At the end of that period production is reviewed, and if the same standard that originally won the award is maintained, a service star will be added.

The presentation took place in a noon-hour ceremony, after the Navy color guards, escorted by bands, paraded to the platform from each end of the works. In honor of the occasion the avenue leading to the platform was decorated with 183 pennants, each bearing the name of a Navy warship in service, with propulsion equipment made by General Electric.

Vice President C. H. Lang, chairman of General Electric's war projects committee, was master of ceremonies. After the invocation, he read a message of congratulations from Frank Knox, Secretary of the Navy. Rear Admiral Cluverius made the award.

"The man in industry and the man in uniform today stand shoulder to shoulder," he stated "in the common endeavor of free men to annihilate the hordes of powerful ruffians who would enslave the world. He who makes the weapon and he who wields it is one.

"The Navy department called upon industry to do almost the impossible and the response was stupendous. Chosen from thousands of plants who so patriotically answered the call were those who were selected to receive the Navy's sought-for award, making them champions ashore.

"General Electric is one of these."

In answer, President Charles E. Wilson replied that, "I think I am speaking for every officer and enlisted man and woman in General Electric when I say that the Navy's orders are our orders, that we are as jealous of its reputation and performance as the most eager of its uniformed personnel, and that we will spare neither hours nor talent in delivering the goods when expected—before, if possible."

In addition to sharing in the award itself, the workers also received "E" lapel insignia. John D. Myers, a veteran of 52 years' continuous service with the company, accepted it for the men, and Miss Lucy Taylor, with 43 years of company service, accepted it for the women.

The meaning of the Navy "E" has changed in the years between the first and second world wars. Then the flag represented excellent performance for a particular bureau of the Navy; today it stands for service to the Navy as a whole, and it is the highest award to industry it can bestow. The predominant factors in selecting companies for the award are:

Productions as compared with delivery schedules under contract; ingenuity in methods of manufacture;

suggestions in design changes to permit more rapid fabrication; co-operation with the personnel of the navy bureau concerned; and satisfactory dealings with labor.

The Schenectady Works was the fourth General Electric plant to receive the award in June. The Works at Philadelphia, Fort Wayne, Ind., and the two plants at Lynn, Mass., all fly the Navy "E". The company's Erie, Pa., Works, first to receive the Navy "E", has just been awarded a service star for its flag.

? DID YOU READ PAGE 31 ?

To Spend Millions On L. A. Rubber Plants

Announcements from executives of companies involved indicate that some $85,000,000 will be spent for synthetic rubber plants and supply sources to be completed in the Los Angeles Basin before March 1, 1943.

W. S. Harmon, project engineer of the Firestone Tire and Rubber Co., first revealed the proposed plant construction program early this month. Earlier it had been announced that Shell Chemical Co. was building a $15,000,000 butadiene plant. Other subsidiary plants, Dow Chemical Co., and Southern California Gas Co., will supply the necessary styrene. Options on the location have been taken through the Defense Plant Corp.

A still later announcement comes from the Goodyear Tire and Rubber Co. stating that it has assumed an important role in the Los Angeles Basin synthetic rubber plants projects.

Cost of the Firestone construction was announced as $30,000,000, and that of the Goodyear plant, $40,000,000.

War Utilizes Many Devices Used in Search for Petroleum

Sound ranging to locate enemy artillery, listening devices to warn of the approach of aircraft and submarines, depth-sounding to determine the position of underwater objects, demolition of land and sea mines by radio or acoustical impulses, position finding and navigating, terrain clearance determination for planes—these are only a few of the war-time applications of the science which has been so successful in finding oil fields.

Oil men, accustomed to think of geophysics as a specialized branch of oil exploration only, may be astonished to learn that this many-faceted science has dozens of uses in war.

Geophysics to the oil man is the science of mapping the dips and curves of geological formations many thousands of feet underground by the reflection or refraction of echoes from man-made earthquakes, by magnetic readings, electrical well logging, and many other means. Actually, the science of geophysics is one of the broadest, and concerns all of the physical phenomena in, and the transmission of energy through, the earth, the water, and the air.

Meteorology is a branch of geophysics. So is radio. Both have their manifold added values in war time. But even the special tools of the exploration geophysicist who in peace time searches out oil fields assume extra importance in war.

Seismic (earthquake) phenomena are used to make foundation tests and locate construction materials for land fortifications, shelters, gun emplacements, harbor installations, and air bases, highways, railroads, bridges, canals, and tunnels. Instruments measuring magnetic phenomena regularly are sent out over artillery practice ranges to determine the location of buried shells and munition dumps.

Oil and other mineral resources also take on augmented value in a national emergency, and accelerate the long-time application of geophysical exploration methods in the search for them. Even water supply and control can be aided by electrical, seismic, and well-logging methods to find water-bearing strata, make contamination surveys, test water wells, and make surveys for

C. C. M. O. Gets Rincon Showings

With considerable depth acting as no deterrent in its attempt to develop production in the Rincon field, Chanslor-Canfield Midway Oil Co. has drilled its Hobson No. C-10 to a depth of 8596 ft. where it encountered shale showing streaks of oil sand possessing a good cut and odor. Despite the unsuccessful attempts of two previous 10,000 ft. wells, C.C.M.O. yet contemplates contacting the base of the Santa Margarita which, geologists estimate, would necessitate drilling to about 14,000 ft.

Also located in section 17,3n-24w, is the company's Hobson No. B-45, which is at present rigging up.

irrigation, drainage, flood control, and power projects.

Strategic and critical minerals such as aluminum, antimony, chrome, manganese, mercury, nickel, tin, and tungsten also can be sometimes located by geophysical methods, but exploration is much more difficult as a rule than in searching for potential oil-bearing structures.

The complete story of geophysics in war is told by C. A. Heiland in a recent issue of the Colorado School of Mines "Quarterly." Professor Heiland, an authority on geophysics, places the birth-date of commercial geophysics at the close of first World War. Some of the earlier methods, he reports, were a direct outgrowth of detection procedures developed for military purposes 25 years ago. Now, he says, the tremendous developments from these beginnings are bearing fruit in the numerous applications of modern geophysics in World War II.

Nomads Hear Navy Speaker

An open business session was held at the June regular monthly meeting of the Los Angeles Chapter of Nomads. A discussion of plans for the summer schedule was conducted by the president, Bill Bettis, after which the meeting was turned over to Fred Ripley who served as master of ceremonies. The innovation of having speakers introduced by a master of ceremonies appointed by the president for each meeting as inaugurated at the June meeting will be carried on for all regular meetings hereafter. The main speaker of the evening was Capt. Willis Bradley, Jr., of the U. S. Navy who is in charge of inspection of all vessels, old and new, on the Pacific Coast.

It was decided to hold the Annual Golf Tournament sometime in July but both the exact date and type of entertainment to follow were left up to the committee appointed to make arrangements. Bob Eiche and George Trembley were appointed on this committee which will otherwise be composed of the standing entertainment committee consisting of Roland Smith, chairman, Tom Murphy and J. V. Robinson.

Another special meeting planned is an annual Barbecue at which the families of members and guests will be invited. This will be held in either August or September and a committee to take care of the details will be appointed later.

After the business meeting A. F. Driskill of the Iraq Petroleum Company told about his adventures in Iraq during the short time the Germans were in control. Bill Higgins, formerly with the Papua Oil Development Company, then described the conditions on the island of New Guinea and pointed out the importance of air transportation in the development of the interior of that island. Carl Jauman, who was formerly with the Antilles Petroleum Company in Trinidad and more recently has been working for the Walsh-Driscoll Company on the new Army-Navy Air base being built in Trinidad, gave some interesting facts about the construction of that immense project.

Capt. Bradley's talk was confined mainly to war activities in the Pacific but he cautioned against believing the optimistic reports being published about the progress of the war in general. The captain's remarks were entirely off the record and expressed only his own opinions.

R. S. MIESSE

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3 Diesel Powered and 2 Steam Rotary Rigs Complete—Also extra boilers, pumps OWS Drilling Units, etc. 13,500 ft. 4½" Hydril drill pipe—Call Jerry Engstrand, Phone AXminister 2-2378, Los Angeles or Karl K. Elliott, 417 Wells Ave., Bakersfield, Calif. Phone 7-7404. 8/5d

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No. 5 Draw works, Boiler, McCormick Pump Unit, 2-750-bbl. steel bolted tanks, Rods, lines, Steam Engine, etc. Now in Huntington Beach. Day Inv. Co., Hotel Del Mar, Woodland, Calif. 7/5/b

DEPARTMENT OF THE INTERIOR, U. S. Land Office, Sacramento, California.—Notice is hereby given that a lease of the oil and gas deposits in the following described lands is offered to the responsible qualified bidder of the highest bonus per acre, pursuant to the provisions of section 17 of the act of February 25, 1920 (41 Stat. 437), as amended, at the royalty rate scale in the lease form shown in General Land Office Circular 1386, at a sale to be held in the office of the Register of the District Land Office in Sacramento, California, at 10 o'clock A.M., on September 10, 1942, E½ SE¼ Sec. 2, T. 21 S., R. 14 E., M.D.M. California, containing 80 acres in the Coalinga West Side oil and gas field. The successful bidder must deposit on the date of the sale a certified check on a solvent bank, or cash, for 1/5 of the amount of each bid, and file a showing of qualifications to receive the lease required by section 7 of Circular 1386. The remaining 4/5, together with the annual rental in advance at the rate of $1 per acre, must be paid and a $5,000 corporate surety bond must be furnished prior to the issuance of the lease. The bidders are warned against violation of the provisions of section 59 of the U. S. Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register. 9/5b